



mQuest[®] Manual

Version 11.0

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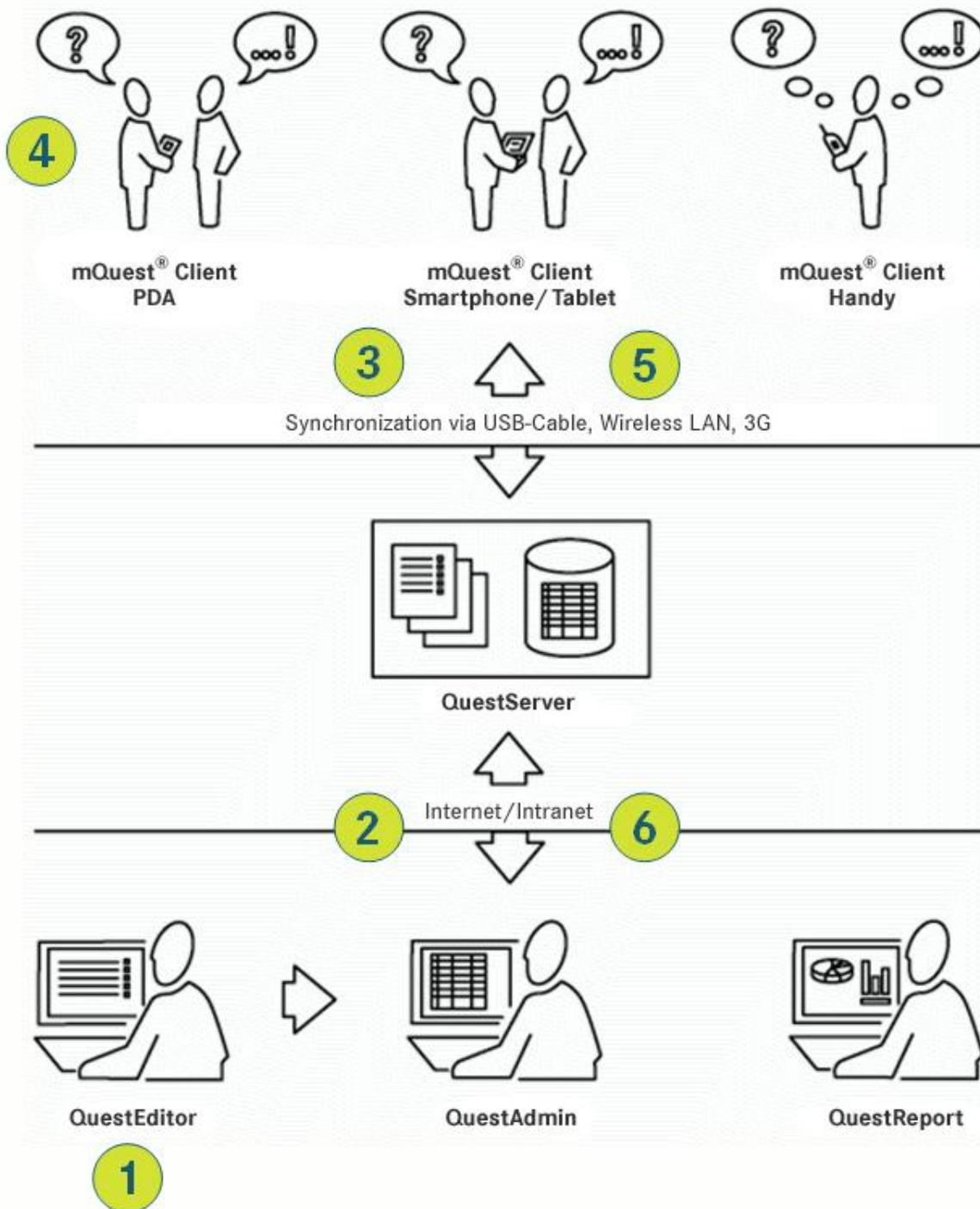
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1 Introduction

1.1 mQuest modules



1. Questionnaire programming with the QuestEditor: Creation of questionnaires, modifying questionnaires, export of questionnaires or the texts contained within it.
2. File questionnaires on the QuestServer with QuestAdmin or QuestEditor.
3. Loading the questionnaires from the QuestServer onto the mQuest Clients.
4. Mobile execution of any number of surveys with the mQuest Client (offline or online) on mobile devices (e.g. smartphones or tablets).
5. Transfer the data sets from mQuest Client onto the QuestServer.
6. Display the data sets from the QuestServer and thereafter export the results for evaluation.



You will receive more detailed information about the mQuest Client in the document **mQuest Client Manual**.



You will find the latest versions of all manuals online at <http://my.mQuest.eu> (free registration required).

1.2 Mobile operating systems

mQuest runs on mobile devices with the operating systems **Apple iOS** or **Google Android** installed.

Some functions are only available for certain operating systems. Functions which are only available for one Operating system are marked by *. See also Page 163 to find out which functions are supported by which operating system.



This documentation is mainly focused to devices with Google Android. This applies to the text as well as to the images.

There are deviations of design, handling and the range of functions for Apple iOS devices (→ for further information please see also Page 163).

1.3 Pre-installed users

If your QuestServer is hosted by cluetec GmbH you will receive all required user information from cluetec.

In case you host your own QuestServer standard users are pre-installed. Please note the following information regarding these users.



Before your mQuest project goes live, you should first create your own administrator and interviewer user accounts and afterwards delete the pre-installed users.

Pre-installed Administrator
Username: **startadmin**
Password: **startadmin**

Pre-installed Interviewer
Username: **demo**
Password: **demo**

1.4 Application Users and Access Rights

There are three types of application users with different roles: **questionnaire programmers**, **interviewers** and **administrators**.

Questionnaire programmers create questionnaires with the QuestEditor. In the QuestEditor there are no access rights. That means that anyone can modify questionnaires.

An **Administrator** has full access rights on the QuestServer with the QuestAdmin and can manage questionnaires and their results as well as users on the QuestServer. For this purpose, user authentication in the QuestAdmin is necessary.

An **Interviewer**, however, has only limited access rights. He can only access the QuestServer with the mQuest Client, for example, to load questionnaires or to transfer results. For this purpose, user authentication in the mQuest Client is necessary.

An **administrator** and an **interviewer** are preset in mQuest in delivery state (→ See also Page 7).

1.5 Manual conventions

In the following, we will introduce you to typographic conventions and symbols we have oriented on during the creation of the reference manual.

Important points are displayed in **bold letters**.

You will find **calls for action** either numbered (as a sequence) or separated:

- **Numbered:**

1. Click on...
2. Then click on...

- **Separated:**

→ Click on...

This sign > stands for a sequence of menu items which you must successively click in order to open a certain window or to activate an action. If you read, for example, the following:

Questionnaire > Additional categories, this means:

1. Click first on the menu item **Questionnaire**.
2. Click thereafter on the entry **Additional categories**.

Cross references, e.g. “(→ See also Page ...)” refer to other positions in the document, which could be helpful for the actual matter. The cross references are interactive. That means you can directly jump to the according page by clicking on the reference.

There are different types of tips, which in each case, are captioned with another symbol:



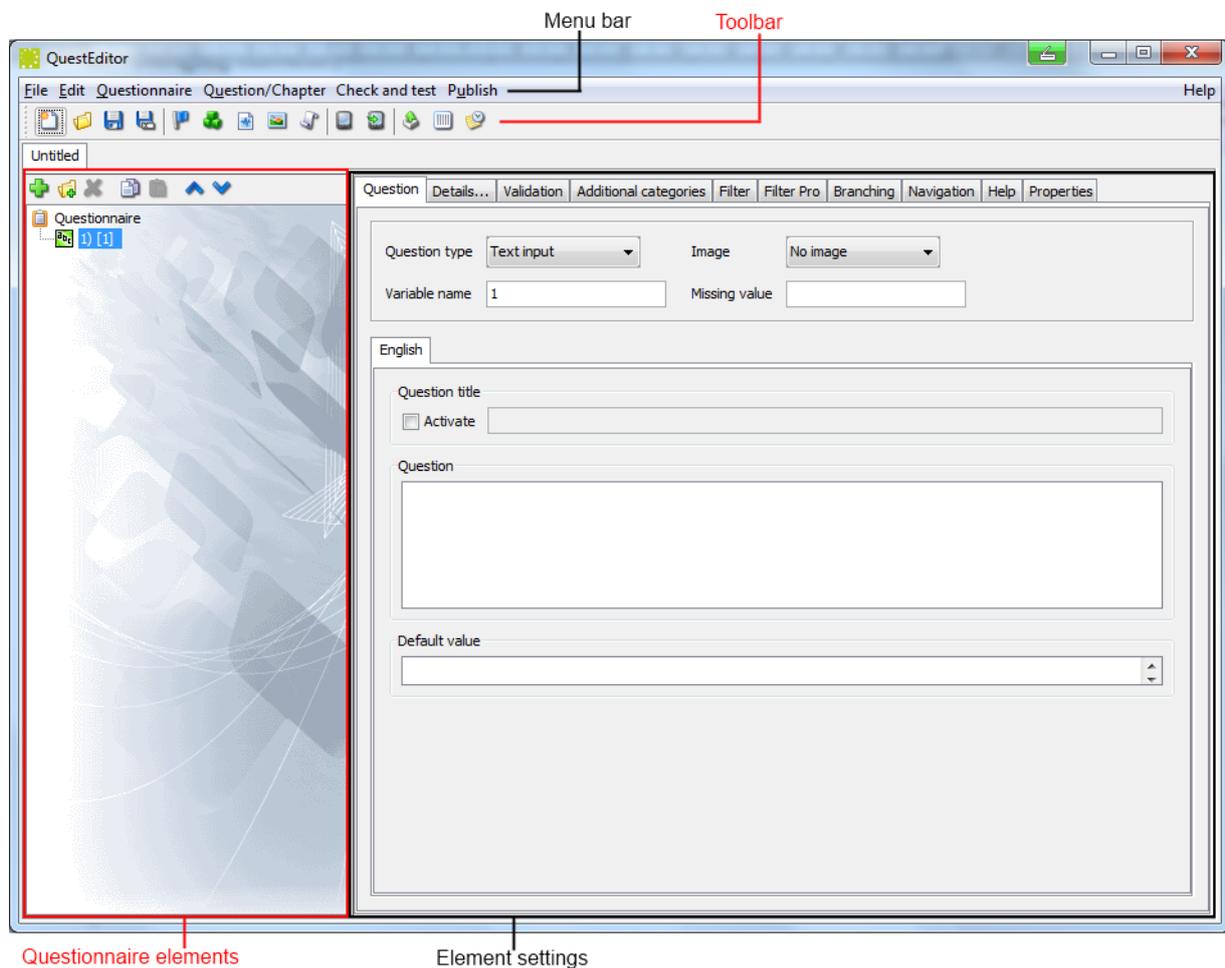
I am an advice text. I give you important information concerning your work with mQuest that you should absolutely observe.



I am an information text. I give you useful tips and information for you to work with mQuest.

2 QuestEditor overview

With the QuestEditor you create the questionnaire, which you will use later on your mQuest Client for your survey.



The largest part of the user interface is used by the two main areas beneath the toolbar.

Questionnaire elements:

In the left section you see the questionnaire elements and the questionnaire elements toolbar. In that section, the chapters and the created questions are listed in numerical order. The variable names are displayed in squared brackets after the according question number.

With the shortcut symbols in the questionnaire element toolbar, the same commands are executed as with the corresponding entries under the menu item **Question**.



Element settings:

The right section displays the settings to the different questionnaire elements, for example, questionnaire, questions, chapters and loops. Depending on the element and question type the displayed settings will vary.



You can change the width of the main areas freely by clicking on the bar between both areas with the cursor, holding down the mouse button and pulling the bar to the right or to the left.

Menu bar:

In the menu bar located at the top edge of the QuestEditor you can find the menu items for using the QuestEditor:

FILE:

-  **New**
Creates a new and blank questionnaire
-  **Open**
Opens an already existing questionnaire
- **Close**
Closes the current questionnaire
- **Close all**
Closes all open questionnaires
-  **Save**
Checks and saves current questionnaire
-  **Save as**
Checks the current questionnaire and saves it under a new name
-  **Language settings**
Opens a new window in which you can choose the application language and default questioning language used in the tree view
-  **Export**
Exports the current questionnaire to different formats (→ See also Page 127)
-  **Import**
Imports a questionnaire text file into the current questionnaire (→ See also Page 131)
-  **Exit**
Exits the QuestEditor

EDIT:

-  **Cut**
Cuts out the highlighted text to the clipboard
-  **Copy**
Copies the highlighted text to the clipboard
-  **Paste**
Pastes the copied text from the clipboard to the current position of the cursor

QUESTIONNAIRE:

-  **Language**
Adjust the language settings of the questionnaire (→ See also Page 17)
-  **Additional categories**
Add or delete additional categories (→ See also Page 17)
-  **Navigation**
Adjust global navigation elements (→ See also Page 17)
-  **Global Variables**
Manage the Global variables (→ See also Page 19)
-  **Quotas**
Definition of the Quota variables (→ See also Page 78)
-  **Images**
Manage the images that shall be used in the questionnaire (→ See also Page 21)
-  **Auto-completion lists**
Manage the auto-completion lists of the questionnaire (→ See also Page 22)
-  **Add file**
Manage the attached files of your questionnaire (→ See also Page 22)
-  **Fixed Field ASCII mapping additional data**
Undertake the column mapping for the additional data (→ See also Page 26)
-  **Fixed Field ASCII mapping**
Delete column mappings and generate the missing ones (→ See also Page 26)

QUESTION:

-  **Add question**
Adds a new question in the questionnaire elements under the currently selected question or chapter
-  **Add chapter**
Adds a new chapter in the questionnaire elements under the currently selected question or chapter
-  **Delete question / chapter**
Deletes the currently selected question or chapter
-  **Copy question / chapter**
Copies the currently selected question or chapter into the clipboard
-  **Paste question / chapter**
Adds the copied question or chapter from the clipboard to the currently selected question or chapter
-  **Move question / chapter up / down**
Moves the currently selected question or chapter one position up or down

CHECK AND TEST:

-  **Questionnaire-Test**
Launches the current questionnaire in the mQuest Client Emulator (→ See also Page 125)
-  **Questionnaire-Quick-Test**
Launches the current questionnaire from the current question in the mQuest Client Emulator (→ See also Page 126)
-  **Check Questionnaire**
Checks questionnaire for fields which are not satisfactorily filled out and other discrepancies



The questionnaire is automatically checked every time it is saved.

-  **Show change history**
Opens the change history (→ See also Page 89)

PUBLISH:

 In order to access the QuestServer with the QuestAdmin, the QuestServer must be started (→ See also Page 133 for starting the QuestServer).

-  **File questionnaire on QuestServer**
(→ See also Page 141).
-  **QuestServer**
Here you can adjust the QuestServer preferences (→ See also Page 133).
-  **Questionnaire Project Settings**
Here you can adjust the project settings (**Live-/Test-Mode**, questionnaire available online/offline) for the questionnaire (→ See also Page 146).

Toolbar:

Under the menu bar you will find the toolbar with the following symbols:

-  **(New)**
-  **(Open)**
-  **(Save)**
-  **(Save as)**
-  **(Manage languages)**
-  **(Definition of global variables)**
-  **(Definition of the quota variables)**
-  **(Manage images)**
-  **(Manage auto-completion lists)**
-  **(Questionnaire-Test (Test questionnaire starting from first question))**
-  **(Questionnaire-Quick-Test (Test questionnaire starting from current question))**
-  **(Export questionnaire)**
-  **(Generate Fixed Field ASCII mapping)**
-  **(Show overview of the changes of the questionnaire)**

3 Creating a questionnaire: QuestEditor

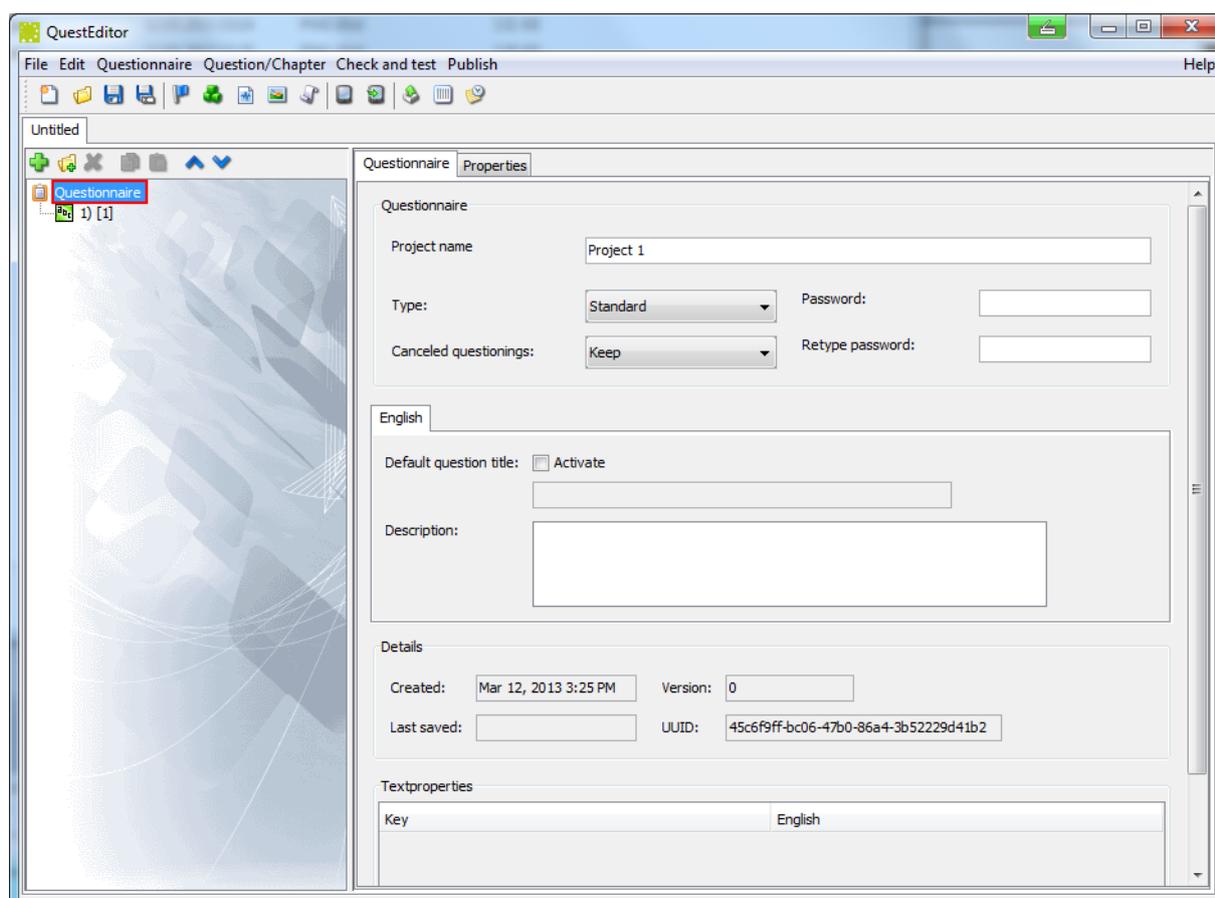
3.1 Global settings

Here you can undertake the general settings for the questionnaire.

3.1.1 Questionnaire data

With the **questionnaire data** you can carry out the optional settings in the questionnaire.

- Click on the questionnaire element **Questionnaire** in the left area to open the questionnaire data.



- **Project name**

Here you can enter a project name for the questionnaire. This name will then be used as the project questionnaire name in the QuestAdmin and on the mQuest Clients. The project name is visible via the project data during the survey (→ See also **mQuest Client Manual**).



If you do not enter a project name, the file name of the questionnaire will be used as the project name when you save the questionnaire for the first time.

The project name must contain only letters (no umlauts), numeric characters, hyphens (-), underscores (_), periods (.) or spaces.

- **Type**
Here you can manage the actions of the questionnaire after the completion of a survey.
 - **continuous**
After you have completed a survey, a new one automatically begins.
 - **standard**
After you have finished a survey, a new one does **not** start automatically.
- **Canceled questionings**
Here you can indicate how uncompleted surveys are treated.
 - **keep**
The results up to cancellation of the survey are kept and are available for evaluation.
 - **delete**
The results up to cancellation of the survey are deleted and are no longer available for evaluation.



Uncompleted surveys are marked accordingly in the results view in the QuestAdmin (→ See also Page 156).

- **Password**
You can protect your questionnaire against unauthorized access with a password. It will be requested before starting the survey on the mQuest Client.
- **Retype password**
Retype the password here.
- **Default question heading**
Here you can define a heading which will be displayed in every question of the questionnaire. If you have defined a heading for single questions, this heading will be displayed instead of the default heading.

In both kinds of headings you can use variables and include e.g. answer texts or Global variables (→ See also Page 80).
- **Description**
This text field is available for any purpose.
- **Created**
This entry contains the time when the questionnaire was created.
- **Last filesave**
This entry contains the time of the last saving.
- **Version**
The questionnaire version gets incremented with every saving.
- **UUID**
This entry contains the unique questionnaire ID and is generated automatically.

3.1.2 Languages

QuestEditor offers the possibility to create a questionnaire in different languages.

SET LANGUAGES:

- Click on **Questionnaire > Languages** to set the languages for the questionnaire (→ See also Page 65).

3.1.3 Additional categories*

“Don't know” or “Refused” are typical additional categories. These are answers which you can make available, as an additional option, to the person being surveyed.

ADDING/REMOVING ADDITIONAL CATEGORIES:

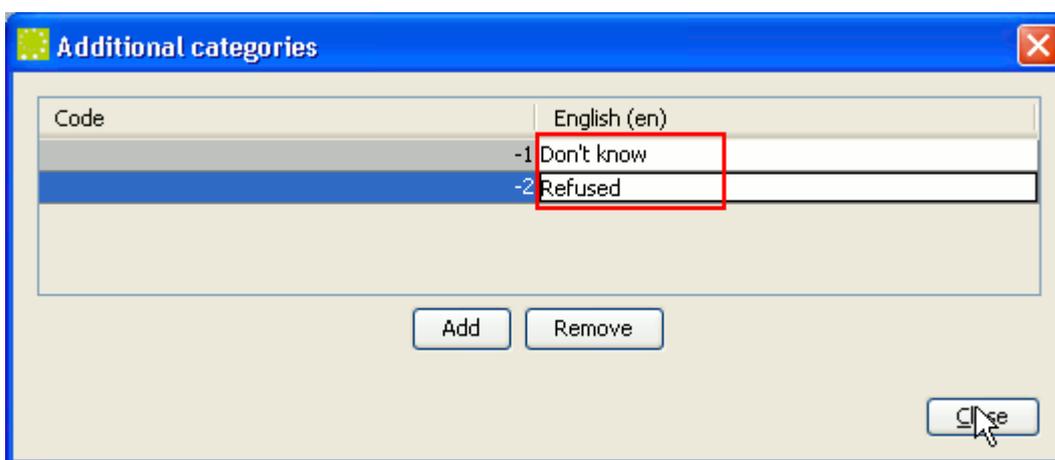
1. Click on **Questionnaire > Additional categories** and then on **add/remove** to add or to delete additional categories

A distinct number which serves for the identification of the additional category in the data sets is automatically generated for each additional category in the first column **Code**.

- You can change this code manually. However, it must be numeric and negative.

The second column header contains the language abbreviation of the language you selected.

2. Enter the additional categories in the cells of the language.



3.1.4 Navigation elements

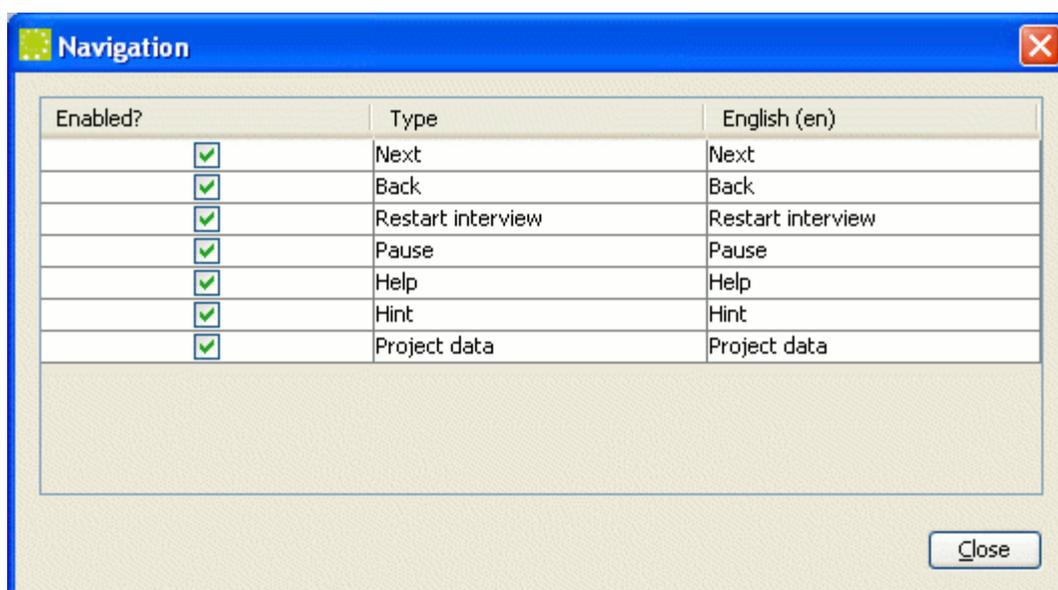
Navigation elements enable you to maneuver throughout the interview on the mQuest Client in your questionnaire or to call up certain menu entries later.



The navigation elements can be set up either globally for the entire questionnaire or for each individual question.

SETTING NAVIGATION ELEMENTS:

- Click on **Questionnaire > Navigation** to carry out the global settings or select one question in the questionnaire elements and click on the tab **Navigation** to carry out the settings for this specific question (→ See also Page 43).



- **Next**
Goes to the next question
- **Back**
Goes to the previously asked question
- **Restart interview**
Restarts the current survey. The already accumulated results of the survey will either be kept or deleted, according to your settings in the questionnaire.

i Appears only if the type under **Questionnaire > Questionnaire data** is set to **continuous**.

- **Pause***
Pauses the survey. A paused survey can be continued later.
- **Help***
Displays a help text for the current question
- **Hint***
Displays a hint text for the current question
- **Project data**
Displays the project data of the questionnaire. This contains the items **Project name**, **Description**, **Keep canceled questionings (yes or no)**, **Created**, **Last file save**, **Version** and **UUID**.

Enabling/Disabling Navigation elements:

If you would like a navigation element to be available/not available in the questionnaire:

1. Deactivate/Activate the small box of the concerning navigation element under **Enabled?**.
2. Click on **Close**.

Renaming Navigation elements:

You are not required to use the preset description of the navigation elements. You can freely rename each element.

1. In the column of the **Language**, **double-click** in the cell of the corresponding navigation element and enter the desired text.
2. Click on **Close**.



Renaming navigation elements will only affect those navigation elements which use a text.

Navigation elements consisting of only a symbol may be renamed but this will have no effect on their appearance.

3.1.5 Global variables

You can assign any value to the Global variables which you have defined in the QuestEditor on the mQuest Client at a later time. General information which is valid for several surveys will be entered once before the first survey, and will then be carried over automatically into every other survey thereafter as long as you have assigned the Global variables a new value. The Global variable will then appear in the result table in its own column (→ See also Page 156 for the result view in the QuestAdmin).

Example You create a Global variable with the description “City” in the QuestEditor. In the mQuest Client you can now give this Global variable a value. If you carry out 10 surveys in New York (NY) and 10 in Los Angeles (LA), then you have to assign the Global variable “City” the value “NY” or “LA” in each case only once. So you assign the value “NY” to the global variable for the first 10 surveys, for the following 10 surveys you assign the value “LA”. In the results table a column will be created for “City” and the surveys of the corresponding value “NY” or “LA” will be assigned.

Furthermore, the value of the Global variables can be displayed in texts or as a default text of **Text input** questions (→ See also Page 81). At this point the assigned value of the Global variables appears during the survey. The Global variable can also be used in connection with formulas (→ See also Page 68).

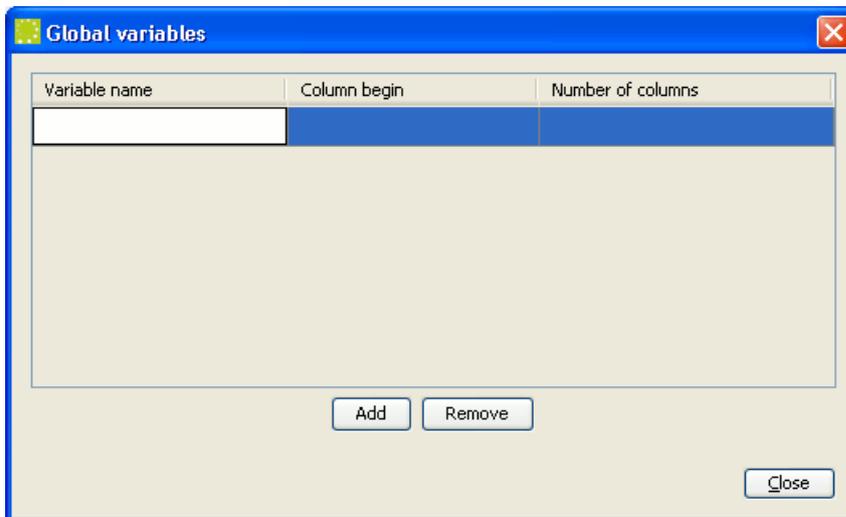


Please note the rules for the notation of variable names (→ See also Page 41).

Defining Global Variables:

1. Click on **Questionnaire > Global variables**.

The following window opens.



2. Click on **Add**.
3. Double-click in the field **Variable name** and enter the desired Global variable name.



The fields **Column begin** and **Number of columns** are only relevant when **Fixed Field ASCII mapping** is used (→ See also Page 26).

4. Click on **Close**.

You also have the possibility to use **predefined Global variables** in your questionnaire whose current value is then saved in every result. These variables must only be defined in the QuestEditor. You do not have to assign them a value in the mQuest Client.

- **gvLang**
Language abbreviation for the language with which the survey has been carried out.
- **gvRotation**
Global manual rotation with which the survey has been carried out (→ See also Page 112 for setting up the rotation plan).
- **DeviceID**
Unique device number of the mobile device on which the survey has been carried out.
- **gvUser**
User of mQuest Client
- **gvParticipationKey**
Participation key of mQuest Client (if used)

3.1.6 Manage images

Here you can determine which images are generally available to you during the creation of the questionnaire.

i You can only include images of the file type PNG (Portable Network Graphics). JPEG, GIF, TIFF, or the like cannot be included, but must be saved beforehand as a PNG with an image editing program.

Images in file formats other than PNG can also be uploaded as media attachment and inserted manually (→ See also Page 22).

Adding images:

1. Click on **Questionnaire > Images**.

The following window will open.



2. Click on **Add**.
3. Select a file.

Removing images:

1. Click on **Questionnaire > Images**.
2. Click on the file name of the image which you would like to remove from the selection.
3. Click on **Remove**.

3.1.7 Manage files

You can add media files to your questionnaire. These files can be added directly to the question text (→ See also Page 58). Possible files are images, audio files and videos.

ADD FILES:

1. Click on **Questionnaire > Add file**.
2. Click on **Add...** and select a file.
3. Click on **Open** and confirm the following dialog with **Yes**, if you want to use the file as a media attachment.

3.1.8 Manage auto-completion lists

An auto-completion list is helpful when there is a multitude of predefined answer possibilities to an open text input question. The user does not have to enter the entire answer with this feature, but instead, after input of the first letters, all answer possibilities which begin with these letters are displayed and the desired answer can be selected (→ See also Page 44). You can also enable a full-text search with a property which allows searching for parts of words (→ See also Page 83).



Auto-completion lists are normal text files which always have to be saved with the extension **.acl** or **.macl**. The file name may only contain letters and numbers.

You can create two types of auto-completion lists, **.acl** and **.macl** lists:

.acl Lists:

You can create **.acl** lists in two different ways:

- **Simple Lists:**
Only the answer possibility will be provided.
- **Lists with Codes:**
The answer possibility and the corresponding code (e.g., a numerical code) are stored, separated by a semicolon.

The difference becomes visible only with the later interpretation of the questioning results (→ See also Page 156).

CREATING SIMPLE AUTO-COMPLETION LISTS (WITHOUT CODES):

1. Open a text editor, such as **Notepad** under Windows (**Start > Programs > Accessories > Notepad**).
2. Enter the answer possibilities in the text file and insert a line break after every line.

For example:

```

Countries.acl - Editor
Datei Bearbeiten Format Ansicht
Austria
France
Germany
Italy
Spain
Other; 999

```

3. Save the file with the file extension **.acl**.

! With this kind of auto-completion list the complete answer text is displayed in the results table in the table column (→ See also Page 156).

CREATING AUTO-COMPLETION LISTS WITH CODES:

1. Open a text editor, such as **Notepad** under Windows (**Start > Programs > Accessories > Notepad**).
2. Enter the answer possibilities in the text file with their codes - separated by a semicolon - and insert a line break after every line.

For example:

```

Countries_with_Codes.acl - Editor
Datei Bearbeiten Format Ansicht ?
Austria;101
France;102
Germany;103
Italy;104

```

3. Save the file with the file extension **.acl**.

! With the auto-completion lists with codes the answer possibilities will also be displayed on the mQuest Client. Contrary to the simple auto-completion list (without codes) the answer possibility is substituted directly after selection by the code, which is then saved in the results table (→ See also Page 156).

Do not use a code multiple times in the same auto-completion list. When displaying the survey results later, answers with the same code will be indistinguishable.

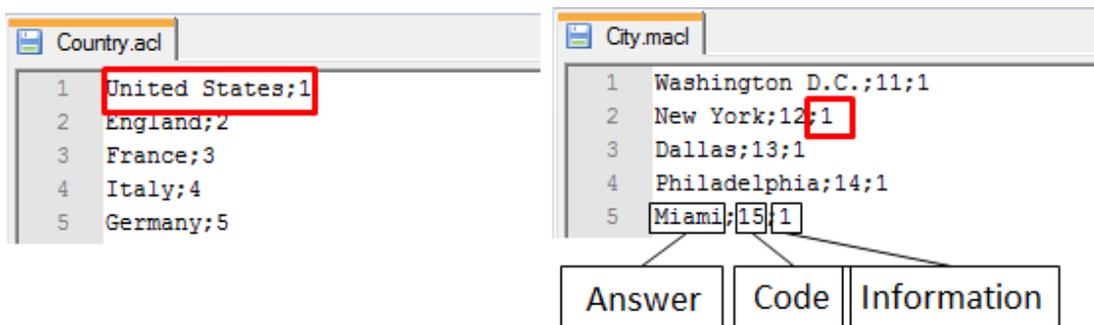
.macl Lists:

A .macl list offers you more possibilities than an .acl list. You can add any number of semicolon separated columns in these lists.

The basic structure corresponds to the structure of the .acl lists with codes.

The answer possibilities are in the first column, the codes that will be saved in the data are in the second column.

Additionally to the first two columns you can add further columns with information to the individual answer possibilities. You can use this information to pre-filter the answer possibilities that will be displayed for the question with the .macl list.

Example:

Example In Q1 you ask the respondent about his or her homeland. Here you deposit the .acl auto-completion list “Country.acl” (on the left side of the graphic). In question Q2 the respondent shall indicate his or her hometown. At this question you place the “City.macl” list (on the right side of the graphic).

By setting a property at Q2 you can pre-filter the answer possibilities with the help of the third column of the “City.macl” list. Thus, only cities of the chosen country will be displayed as possible answers.

The property for this example would be: `questioning_question_acl_sql_filter=value_2=Q1`

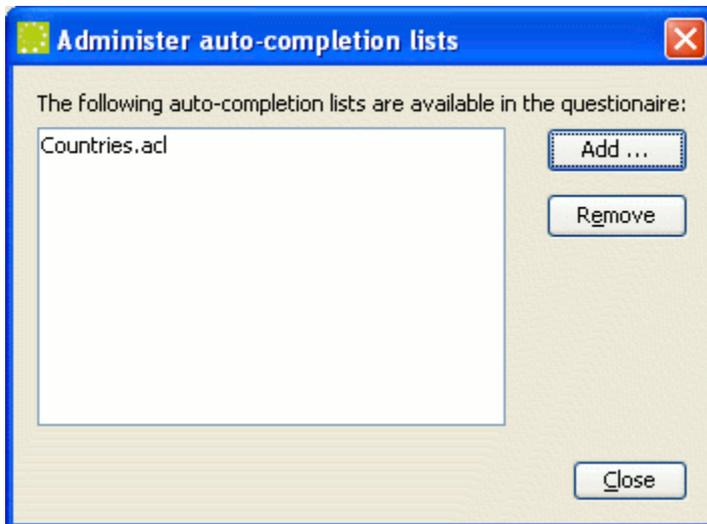
This property means: Compare the third value of the .macl list “City.macl” with the answer given in Q1 and show only matching entries of the .macl list.

You can find this and other properties in chapter: Text replacement functions / text variables / Properties (→ See also Page 83)

MANAGING AUTO-COMPLETION LISTS:

To make the auto-completion lists available in the questionnaire:

1. Click on **Questionnaire > Auto-completion lists**.
2. Click on **Add**.
3. Select an .acl or .macl list and click on **Open**.

**REMOVING AN AUTO-COMPLETION LIST:**

1. Click on **Questionnaire > Auto-completion lists**.
2. Click on the file name of the suitable auto-completion list.
3. Click on **Remove**.



An auto-completion list can only be removed if it is not used in a question.

MODIFYING AUTO-COMPLETION LISTS:

1. Change the ACL file in the text editor and save it under the same name.
2. Click on **Questionnaire > Auto-completion lists**.
3. Click on **Add**.
4. Select the changed file and click on **Open**.

3.1.9 Fixed Field ASCII mapping

You have the possibility to carry out a **Fixed Field ASCII mapping** in the QuestAdmin (→ See also Page 161). You can undertake the column mapping in the QuestEditor.

You can individually set the column mapping for additional data, Global variables and questions. You can have the column mapping be generated automatically for all questionnaire elements which do not have a column mapping yet. Additionally, you have the possibility to export an overview of the column mapping (→ See also Page 132).

SETTING COLUMN MAPPING FOR ADDITIONAL DATA:

1. Click on **Questionnaire > Fixed Field ASCII mapping additional data**.
The following window will open.

	Column begin	No. of columns
Id	<input type="text"/>	<input type="text"/>
Begin interview	<input type="text"/>	<input type="text"/>
End interview	<input type="text"/>	<input type="text"/>
Interview duration	<input type="text"/>	<input type="text"/>
Interviewer	<input type="text"/>	<input type="text"/>
Handover	<input type="text"/>	<input type="text"/>
Interview canceled	<input type="text"/>	<input type="text"/>

2. Enter the desired **Column begin** and the required **Number of columns** in the fields.

SETTING COLUMN MAPPING FOR GLOBAL VARIABLES:

1. Click on **Questionnaire > Global variables**.
The following window will open.

Variable name	Column begin	Number of columns
Variable1	<input type="text"/>	<input type="text"/>
Variable2	<input type="text"/>	<input type="text"/>

2. Double-click in the fields **Column begin** and **Column number** of the Global variable for which you would like to set the column mapping.
3. Enter the desired **Column begin** and the required **Number of Columns**.

SETTING COLUMN MAPPING FOR A QUESTION:

1. Click in the **Questionnaire elements** on the question for which you would like to set the column mapping.
2. In the **Element settings**, click on the tab **Details**.

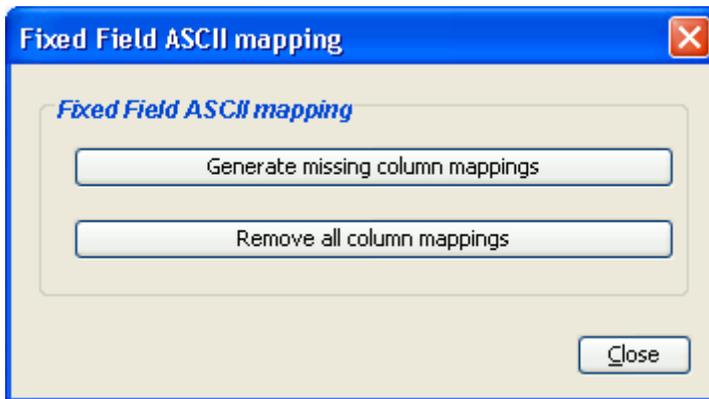
The screenshot shows the 'Details' tab of the QuestEditor interface. The 'Properties' section includes fields for 'Min. answers', 'Max. recording duration (sec.)' (60), 'Editable result fields' (1), 'Order' (As entered), 'Question type variant' (Audio), and 'Auto-completion list' (No auto-completi...). The 'Format' section includes 'Minimum', 'Maximum', 'Characters' (Alphanumeric), 'Total number of characters for editable result fields (Encoding)' (255), and 'Decimal places'. The 'Fixed Field ASCII mapping' section has 'Column begin' and 'Number of columns' fields highlighted with a red box.

3. Enter the desired **Column begin** and the required **Number of columns** in the fields of the **Fixed Field ASCII mapping** area.

GENERATING MISSING COLUMN MAPPING:

1. Click on **Questionnaire > Fixed Field ASCII mapping**.

The following window will open:



2. Click on **Generate missing column mapping**.

All missing column mappings are automatically generated and entered in the respective fields.

3. Click on **Close**.

i For **Media input**, **Text input** and **Numeric input** question types, the **total amount of characters** in the **Format** area can be set. This is also used for the generation of the missing column mappings for the current question. The default settings are 255 characters for text and 25 characters for numbers. With **Media input** question types, the column mapping is additionally carried out depending on the given number of **editable result fields**.

i Column mappings will only be generated for blank fields. Already existing column mappings will not be modified.
After generation you can also manually edit or delete the column mappings.

DELETING ALL COLUMN MAPPINGS:

1. Click on **Questionnaire > Fixed Field ASCII mapping**.
2. Click on **Delete all column mappings**.
3. Click on **Close**.

CHECKING COLUMN MAPPING:

- Click on **Check > Questionnaire**.

The questionnaire will be checked and problems or discrepancies in the column mapping will be displayed in a dialog.

3.2 Question types

There are different types of questions which are available to you. Every type of question offers different answer possibilities and configuration possibilities (→ See also Page 38).

3.2.1 Message

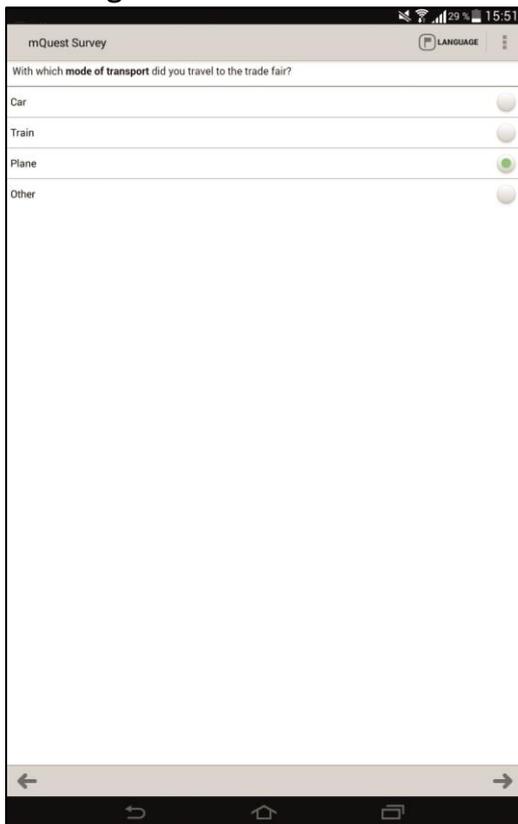
- **Message**



Displays an image or a text, e.g., in the greeting or for additional information to the following question.

3.2.2 Closed questions

- **Single selection**



Presents answer possibilities from a **list** or an **ImageMap** (→ See also Page 52). Only one answer is possible.

An answer must be selected in order to continue the survey. If necessary, an additional category can be added, e.g. "Don't know" or "Refused" (→ See also Page 17).

- **Multiple selection**



The screenshot shows a mobile application interface for a survey. At the top, the status bar displays signal strength, Wi-Fi, 29% battery, and the time 15:52. The app title is "mQuest Survey" with a "LANGUAGE" button and a menu icon. The question text is "Where have you seen this logo?" followed by "MULTIPLE SELECTION POSSIBLE" and the Cluetecc logo. Below the question is a list of six options, each with a checkbox on the right: "In the entrance" (unchecked), "On the ticket" (checked), "At the cluetecc stand" (checked), "In the exhibitor's catalogue" (checked), "Other" (unchecked), and "Nowhere" (unchecked). The bottom of the screen shows a navigation bar with back, home, and recent apps icons.

Presents answer possibilities for selection of several answers in a **list** or in an **ImageMap** (→ See also Page 52). It is possible to select multiple answers.

- **Ranking**

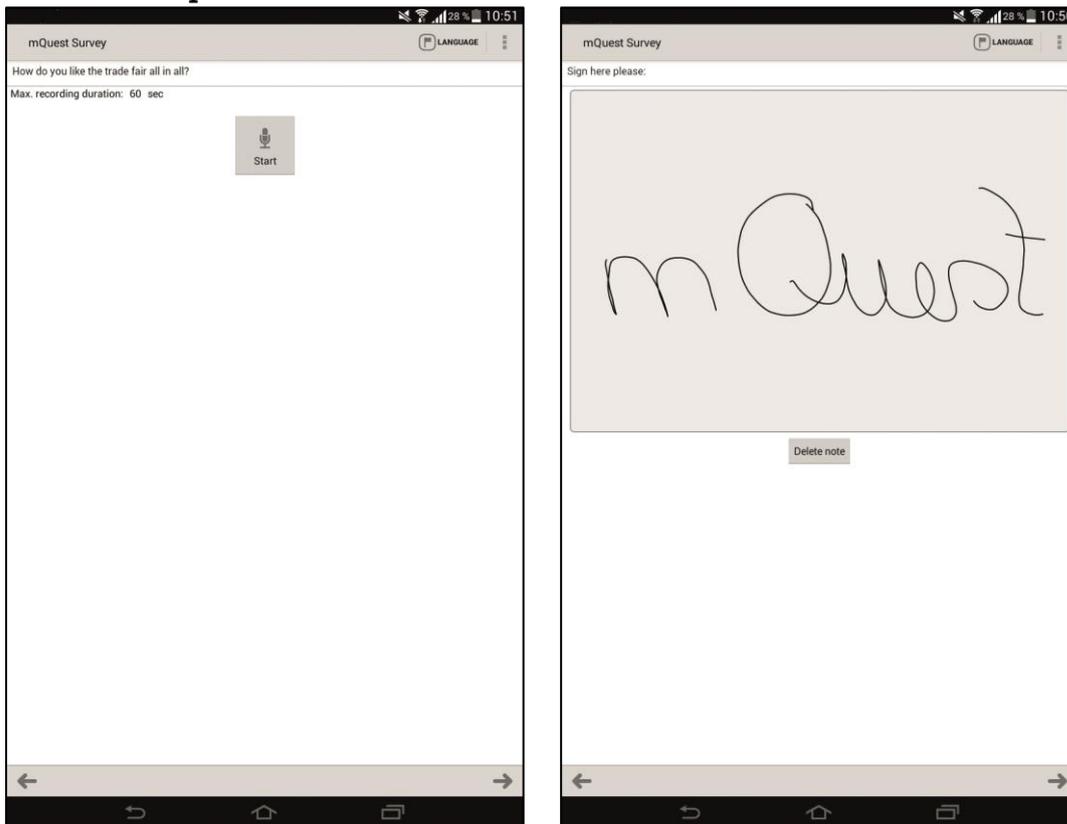


The screenshot shows a mobile application interface for an mQuest Survey. At the top, the title is "mQuest Survey" and there is a "LANGUAGE" button. The question text is "What is the main aim of your trade fair visit?" followed by the instruction "Please answer in order 1 to 3." Below this, it says "Choice 0 / 3" with a refresh icon. The answer options are listed in a vertical stack: "Make contacts to a producer", "Information about a particular product", "Information about a particular company", "Hold an expert talk", and "Collecting general information". Each option is on a separate line with a thin horizontal separator. At the bottom of the screen, there are navigation arrows (back and forward) and a home button.

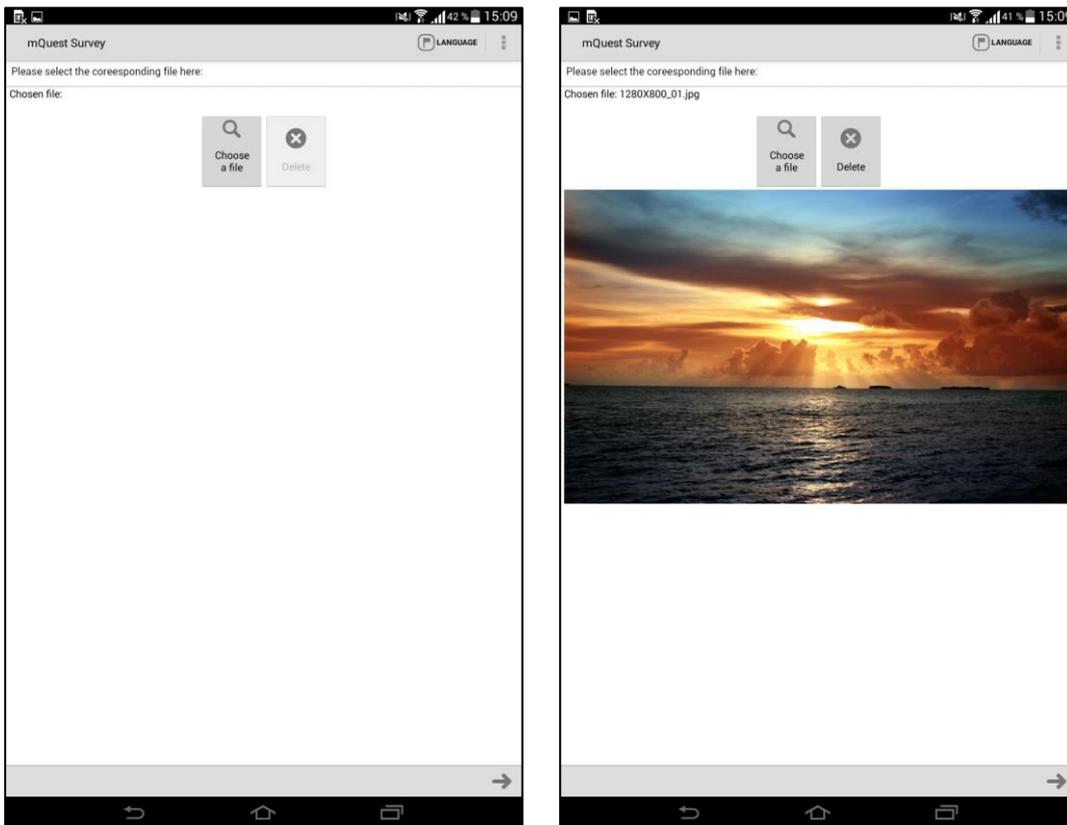
Presents answer possibilities in a desired ranking order. It is possible to select multiple answers. The first selected answer is on the 1st position, the second answer is on the 2nd position etc.

3.2.3 Open questions

- **Media input**

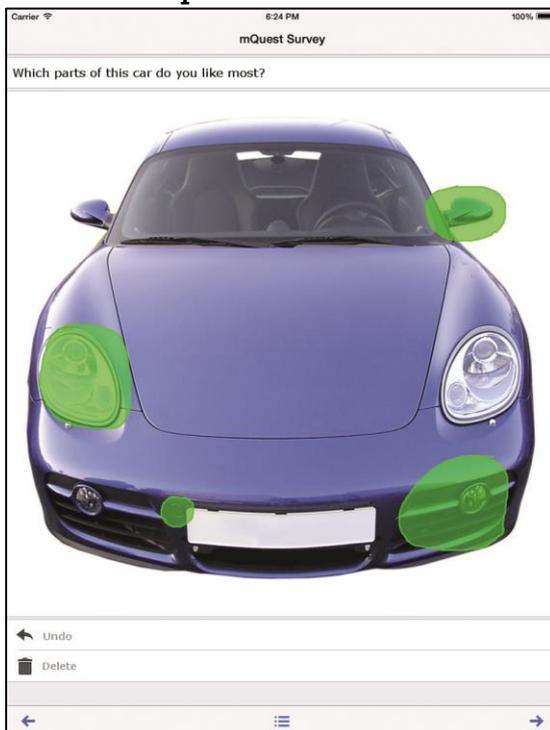


Enables an **audio**, **(markable/multiple) photo** or **video recording**, a **note** or the **capturing of GPS data** as an answer to a question. With a markable photo it is possible to directly mark areas of the photo.



Alternatively, the option **File selection*** enables you to select a file stored on the device (left). If the selected file is an image file, a preview will be displayed (right).

- **Heat map**



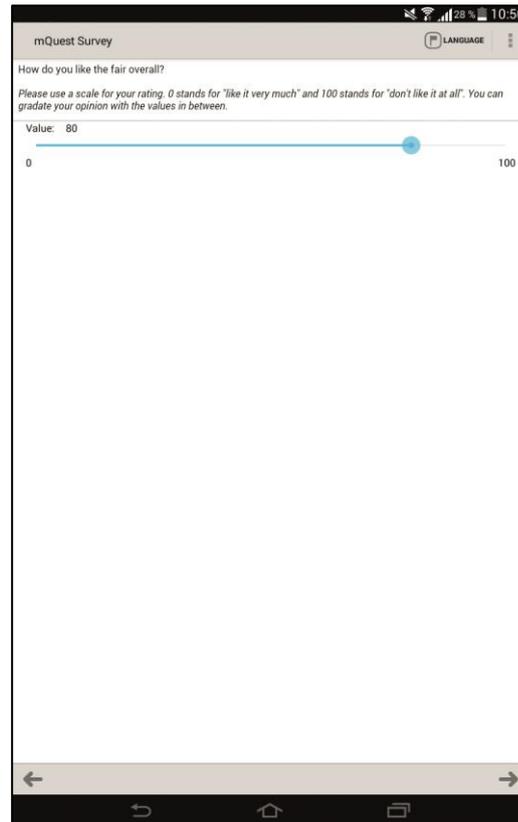
Allows highlighting areas within a graphic.

- **Text input**

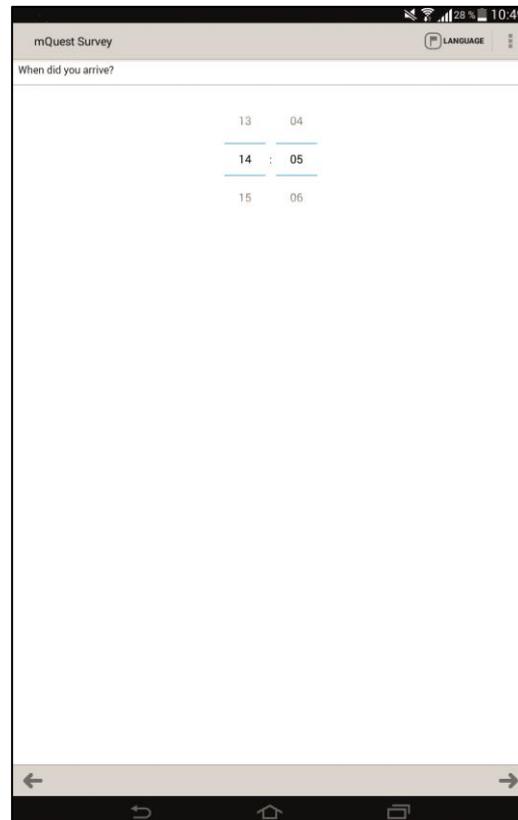
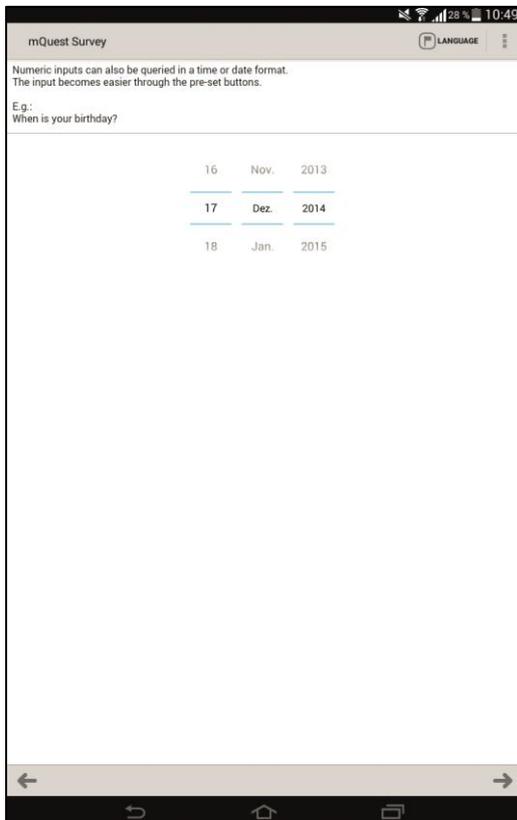


Presents a text field for the input of an open-ended answer.

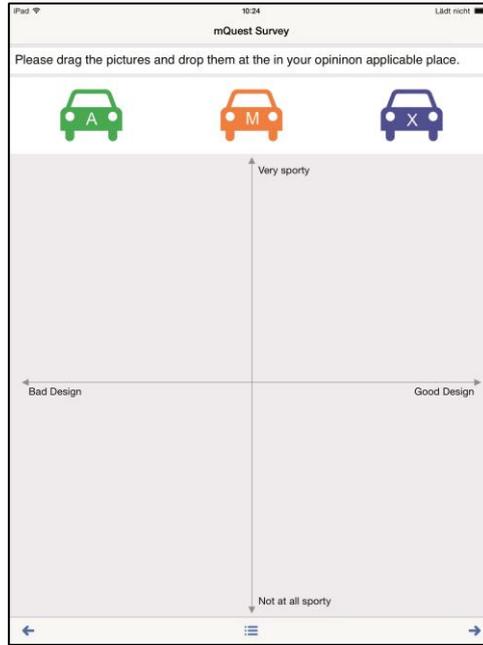
- **Numeric input**



Presents a **text field** (top left) for the input of a decimal or whole number, a **scale** (top right), a **date input** (lower left) or a **time input*** (lower right).



• **Drag&Drop**



Enables the placing of pictures along an X-axis (left) or in a coordinate system with X-axis and Y-axis (right).

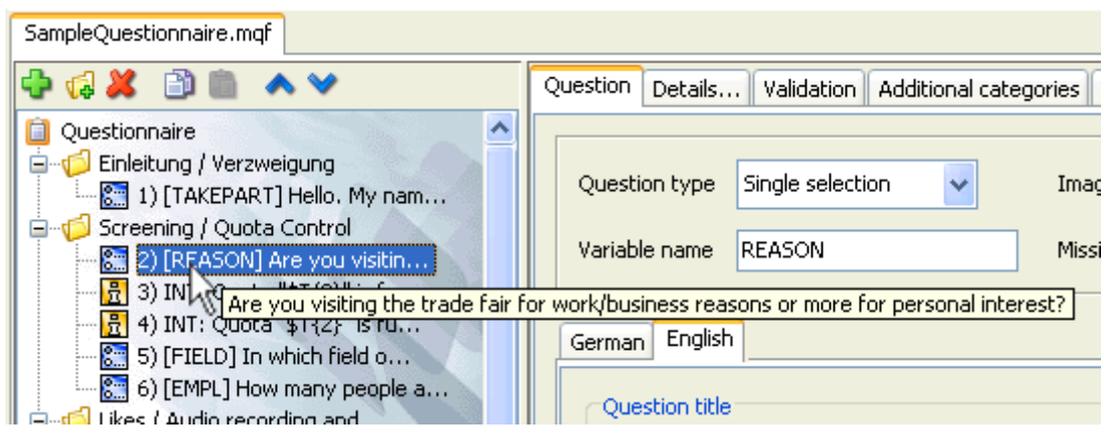
3.3 Creating a questionnaire

3.3.1 Creating questions and answers



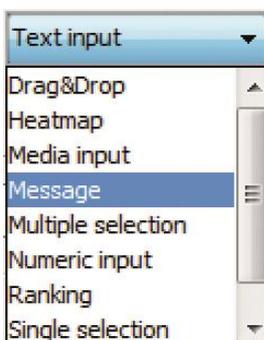
In order to edit a question it must be selected. A question is selected when it is highlighted in blue in the questionnaire elements.

If the question text is too long, it will not be completely displayed in the questionnaire elements. If you would like to see the entire text, place the cursor on the question; after a short time the entire text will be displayed as a tool tip.



Basically, you always create the questions and answers in the same way:

1. Click on  in the toolbar to add a new question to the questionnaire elements.
2. Select the type of question in the **Element settings**.



3. Enter a unique variable name. This will be assigned automatically; however, it should be changed.



Please note rules for the notation of variable names (→ See also Page 41).

4. Optionally enter a **Missing value** (the value has to be numerical with all question types except for **Text input**).



The missing value of a **Media input** question type is not allowed to be identical with any of the possible media file extensions (e.g., .wav, .mp3, .jpg, .tif, .avi, .mpg, .3gp, .mp4).

5. Optionally select an **Image** (→ See also Page 21). This appears on the mQuest Client always directly beneath the question text. For questions of the types **Image Map** and **Heatmap**, images are required.
6. Optionally activate the check box **Question title** and enter a title for the question. It will be displayed in the title line of the question in the mQuest Client.
7. Enter the question text in the field **Question**.

8. With the **Drag&Drop** question type, enter the minimum and the maximum value for the X-axis and the Y-axis (if used) in the **Drag&Drop configuration** area. Enter the labels for the end points of the X-axis and the Y-axis (if used).

i You can, for example, filter for the values of Drag&Drop questions, display the values or validate them.

In order to do this, use the following syntax:

Q5.1.2 > 25

The first digit (5) refers to the Drag&Drop question.

The second digit (1) references the answer position.

The third digit (2) indicates the axis whose value you would like to reference (1 stands for the X-axis, 2 for the Y-axis).

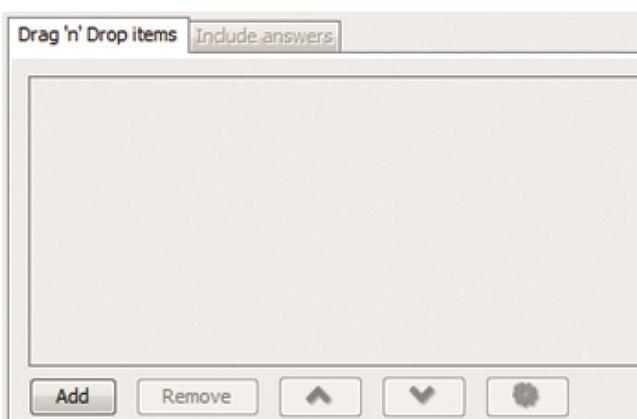
If necessary, this is followed by the respective operator and a value.

9. With the **Single selection**, **Ranking** and **Multiple selection** question types, click in the answer area on **Add** and enter the text of the answer possibilities. Additionally you can define answer codes in the column **Code** for these question types (→ See also Page 41).

ID	Answer Text	Code
1	<input type="text"/>	<input type="text"/>

- There is a **Single answer** option with the **Multiple selection** question type. If during the survey on the mQuest Client, an answer marked as a **Single answer** is selected, no other answer is possible for this question. All the other selected answers will automatically be unselected. Single answers are, for example, “None” or “Not applicable”.

- With the **Drag&Drop** question type, click on **Add** in the **Drag&Drop items** area and create the picture files.



- You can delete the answers and Drag&Drop elements again by clicking on **Remove**.
- With the question types **Text input** and **Numeric input** you are able to optionally enter a **Default value**. The text or the number which is entered in this field will already be preset later on the answer line during the survey with the mQuest Client. This default value does not have to be taken over by the user; he can delete it at any time and substitute it with another answer. With text variables you also have the possibility to use answers from other questions as a default value (→ See also Page 80).

Default value

- If the questionnaire is defined in multiple languages, the default value for the question type **Numeric input** is automatically set for all languages.
With the question type variants **Date** and **Time**, the default value must be specified in the following format: YYYYMMDD (Date) or HHMM (Time).
With the question type **Text input**, the default value in various languages can be different and therefore must be set for each individual language.

- Conduct other settings through the different tabs in the **element settings**. These will be explained in the following chapters.



! The entries in the field **variable name** and **missing value** are important in the later interpretation and evaluation of the results (→ See also Page 156).

The entry for **missing value** is placed in a result cell if a question was not asked, for example, because of a Filter.

With the question type **Message**, you are not able to enter a **variable name** and a **missing value**.

! Save your questionnaire in regular intervals and make backup copies.

i You are also able to copy questions or chapters from one questionnaire to the other (→ See also Page 102).

3.3.2 Rules for the notation of variable names

Variable names must be only characters and/or numeric characters. Furthermore they must be unique, i.e. a variable name cannot be used multiple times in the questionnaire.

Special characters, spaces and reserved names (Beginn, Ende, Dauer, begin, end, duration, gvLang, gvRotation, DeviceID) are not allowed.

This applies to variable names of questions as well as to Global variables.

3.3.3 Answer codes

Idx	Answer text	Code
1		1
2		2
3		3

For questions with the question type **Single selection**, **Multiple selection**, and **Ranking** you can enter an answer code in the field **Code**. For **Single selection** questions and **Ranking** questions the answer code of the selected answer will be entered into the result table. For questions with the type **Multiple selection** the name of the answer column will contain the answer code (→ See also Page 156 for details to the result interpretation).

Without specification of an answer code the **ID** (column **Idx**) of the selected answer will always be entered in the result table.

ENTERING ANSWER CODES:

1. Select the desired question in the **questionnaire elements**.
2. Click in the field **Code** of the desired answer and enter a code.

An answer code is firmly tied to the accordant question. That means when you move a question, the code will move too.



Answer codes must be unique, i.e. an answer code may not appear multiple times within one question. This also applies to included answers.



If you would like to use a **numerical code**, you must separate decimal places with a period. If you use a comma instead of a period, the code is not interpreted as a number and this can lead to errors during a possible formula calculation with this code (→ See also Page 68). In addition, it can cause wrong mappings with the SPSS[®] Export (→ See also Page 160).

The maximal length of an answer code is **20 characters**.

RESET ANSWER CODES:

You can reset the answer codes of a question at any time.

1. Select the desired question in the **questionnaire elements**.
2. Click on the button  in the **Element settings** beneath the answer window.

*All answer codes of the selected question will be reset. The codes are now equal to the corresponding answer ID in the column **ID**.*



If you reset the answer codes of included answers, you need to immediately ensure the uniqueness of these answer codes.

I.e.: answer codes of included answers cannot be used in the question in which they are included or vice versa.

3.3.4 Navigation elements

You can adjust the navigation elements which are defined globally (→ See also Page 17) for every question individually.

ENABLING / DISABLING NAVIGATION ELEMENTS:

1. Select the desired question in the **Questionnaire elements**.
2. Click in the **Element settings** on the tab **Navigation**.
3. Click in the small box in the column **Enabled?** of the corresponding navigation element to enable / disable it for this question.

RENAMING NAVIGATION ELEMENTS:

- Double-click in the language column of the corresponding navigation element and enter a new name.

i Renaming navigation elements will only affect those navigation elements which use a text.

Navigation elements consisting of only a symbol may be renamed but this will have no effect on their appearance.

3.3.5 Additional categories

The activation and deactivation of the additional categories work in the same way as the activation and deactivation of the navigation elements.

i You cannot use any additional categories for the question types **Message** and **Media input**.

ACTIVATING / DEACTIVATING ADDITIONAL CATEGORIES:

1. Select the question in the **Questionnaire elements**.
2. Click in the **Element settings** on the tab **Add. categories**.

This tab contains a table listing the additional categories that are defined globally (→ See also Page 17).

3. Click in the small box on **Use this answer?** of the corresponding additional category to activate / deactivate it for this question.

3.3.6 Using auto-completion lists

Auto-completion lists can be used with the question type **Text input** and must be added beforehand in the global settings of the questionnaire (→ See also Page 22).

USING AUTO-COMPLETION LISTS:

1. Select the question in the **Questionnaire elements**.
2. Click on the tab **Details** in the **Element settings**.
3. In the drop-down menu **Auto-Completion List**, **choose** the list which you would like to use.
4. Optionally you can enter the max. number of matches in the input field **Max. matches Auto-completion list**. The match list will only be displayed on the mQuest Client when the number of matches is less than or equal to the set number of maximum matches. The number of displayed matches can then be fitted to the available space on the screen to avoid the need to scroll. The internal default value is 14.

The screenshot shows the 'Properties' tab in the QuestEditor interface. The 'Max. matches auto-completion list' field is set to 2, and the 'Auto-completion list' dropdown is set to 'Countries.acl'. Both fields are highlighted with red boxes. The interface includes tabs for 'Question', 'Details', 'Validation', 'Additional categories', 'Filter', 'Filter Pro', and 'E'. The 'Properties' section contains various settings such as 'Min. answers', 'Editable result fields', 'Order', 'Question type variant', and 'Auto-completion list'. There are also checkboxes for 'Quick', '*-Inp', 'Requi', and 'Open'.

3.3.7 Entering help and hint texts*

You can enter a help text and a hint text for every question. There is, in addition, the possibility to set an image for the help text or to replace the help text by a PDF file.

Help will be accessed later on the mQuest Client **Menu Button > Help**. You can access the hint via **Menu Button > Hint**.



The navigation elements for help and hint must be enabled (→ See also Page 43).

ENTERING HELP AND HINT TEXTS:

1. Select the question in the **Questionnaire elements**.
2. Click on the tab **Help** in the **Element settings**.
3. In the text fields, enter the suitable texts and optionally select an image which should be displayed.

USING A PDF FILE AS HELP TEXT:

1. Prepare a PDF file with the desired contents.
2. Add the file to the questionnaire via **Questionnaire > Add file** (→ See also Page 22).
3. Select the question in the **Questionnaire elements**.
4. Click on the tab **Help** in the **Element settings**.
5. Activate the checkbox **Help PDF** and select the desired PDF file.



If you would like to use a help text instead of a help PDF, activate the checkbox **Help image**.

Please note that help texts can only be displayed on Android devices. Help PDF can be displayed both on Android devices and on iOS devices.

3.3.8 Defining input formats, setting attributes

With the help of the tab **Details** you can carry out more detailed settings for every question. The setting possibilities depend on the question type. Hence, the tab view differs depending on the question type.

Area properties:

The screenshot shows the 'Details' tab in the QuestEditor interface. The 'Properties' section is visible, containing several settings:

- Min. answers:** A numeric input field.
- Max. answers:** A numeric input field.
- Editable result fields:** A numeric input field.
- Order:** A dropdown menu with 'As entered' selected and a mouse cursor hovering over it. The dropdown list shows 'As entered', 'Random', and 'Rotating'.
- Question type variant:** A dropdown menu.
- Auto-completion list:** A dropdown menu with 'No auto-completi...' visible.
- QuickClick:** A checked checkbox.
- *-Input:** An unchecked checkbox.
- Required answer:** An unchecked checkbox.
- Required question (superior "m out c:** An unchecked checkbox.
- Open-ended text allowed:** An unchecked checkbox.

- Min. answers**
 Here you can specify how many answers to a question must at least be given for the question types **Multiple selection** and **Ranking**.
- Max. answer/ Max. matches auto-completion lists**
 Here you can specify the maximal number of answers that may be given to the question types **Multiple selection** and **Ranking**. If an auto-completion list has been selected for the question type **Text input**, you can specify the max. number of matches that has to be reached so that the hit list will be shown (→ See also Page 44).
- Editable result fields**
 Here you can specify, for the question type **Media input**, how many additional, at a later time editable result fields exist to a question in the result. Any text, e.g., a coding of an audio recording, can be entered there.
- Order**
 Here you can change the order of how the answers in the later survey on the mQuest Client will be displayed for the question types **Single Selection**, **Multiple selection**, and **Ranking**. You have the following options:
 - As entered**
 The order on the mQuest Client corresponds to the order of the answers from the element preferences.
 - Rotating**
 In a survey the answers are displayed in order, but the selection of the start element rotates depending on the number of surveys on the mQuest Client.
 - Random**
 The order of the answers is random.

i To avoid positioning effects, you can vary the order of the answers for **Single Selection**, **Multiple Selection**, and **Ranking**.

→ Place a checkmark next to the answer in the box **Fixed Position** if an answer should always be displayed in a certain position.

Answers		Include answers	
Id	Answer text	Single Answer	Fixed Position
1	Don't know the Supershop	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	Badly reachable	<input type="checkbox"/>	<input type="checkbox"/>
3	No interesting stores	<input type="checkbox"/>	<input type="checkbox"/>
4	Other reasons	<input type="checkbox"/>	<input type="checkbox"/>

- **Max. recording duration (sec.)**

Here you can specify, for the question type **Media input**, question type variant **Audio** or **Video**, the maximum recording duration for audio and video recordings in seconds.

The screenshot shows the 'Properties' section of the QuestEditor interface. The 'Max. recording duration (sec.)' is set to 60. The 'Question type variant' is set to 'Audio', and the 'Video' option is highlighted in the dropdown menu. Other settings include 'Min. answers' (1), 'Editable result fields' (1), and 'Order' (1). The 'Format' section is also visible at the bottom.

i Please be certain that enough memory is available for recording, e.g., by additional memory cards on the mobile device.

- **Question type variant**

Here you can specify, for the question types **Single selection**, **Multiple selection**, **Media input**, **Text input**, **Numeric input**, and **Drag&Drop**, how the answers in the later survey are displayed on the mQuest Client. Depending on the question type, there are different question type variants available.

The screenshot shows the 'Properties' tab in the QuestEditor interface. The top navigation bar includes 'Question', 'Details...' (selected), 'Validation', 'Additional categories', 'Filter', 'Filter Pro', 'Branching', and 'Nav'. The 'Properties' section contains several settings:

- Min. answers:** A numeric input field with up/down arrows.
- Max. answers:** A numeric input field with up/down arrows.
- Editable result fields:** A numeric input field with up/down arrows.
- Order:** A dropdown menu currently set to 'As entered'.
- Question type variant:** A dropdown menu currently set to 'Vertical list'.
- Auto-completion list:** A dropdown menu with a list of options: 'Horizontal list', 'ImageMap', and 'Vertical list' (which is highlighted).

On the right side of the 'Properties' section, there are several checkboxes:

- QuickC
- *-Inpu
- Requir
- Requir
- Open-

- **Single / Multiple selection:**
 - **ImageMap***
The answers are made available in an ImageMap (→ See also Page 52).
 - **Vertical list**
The answers are listed below each other.
- **Numeric input:**
 - **Date**
Number fields for date inputs. Days, months and years can be set with a plus and a minus button.
 - **Scale**
You can adjust the desired value with a slider on a horizontal scale. The scale always stretches from the min. value to the max. value that you defined in the **Format** area.
 - **Time**
Number fields for time input. Hours and minutes can be set with a plus and a minus button.
 - **Numeric input**
An input field that enables you to enter an integer or a decimal number is available.
- **Text input**
 - **Text**
A text field will be shown in which the answer can be entered.
 - **Barcode/QR-Code***
You can scan barcodes and QR Codes. The content of the code will be saved in the text field.

- **Media input**
 - **Audio**
You can create an audio recording as an answer.
 - **Photo**
You can take one or more photo(s) as an answer and, depending on the question type variant, directly mark areas of the photo.
 - **Location**
The current GPS coordinates of the device are captured. Depending on your mobile device and settings, GPS, WiFi, and the current radio cell are used to determine your position.
 - **Video**
You can record a video as an answer.
 - **Note**
You can draw or write with your fingers as an answer.
 - **File Selection***
You can select a file stored on the device as an answer. If the file selected is an image file, a preview will be displayed.



With the question type variants **Photo** and **Video**, the external camera module starts, with which you can perform the recording.

In order to record pictures or videos, the mobile device needs to provide the required hardware. Please check the availability of the required functions timely; e.g. Apple iPads of the first generation do not provide a camera module.

For starting and stopping the recording with the external camera module, please refer to the manual of your mobile device.



Audio files which have been recorded with Apple iOS devices can be played with QuickTime Player.

- **Drag&Drop**
 - **1-Dimensional**
You can place the answers along the X-axis.
 - **2-Dimensional**
You can place the answers in a coordinate system.
- **Further options:**
 - **Auto-completion list**
Here you can specify, for the question type **Text input**, if and which auto-completion list should be available with this question (→ See also Page 22).
 - **QuickClick**
If this option is selected, once the question for the question type **Single selection** has been answered, the survey automatically jumps to the next question. With questions of the question type **Text input**, this option enables you to jump to the next question by pressing the Enter key. With **Numeric inputs**, the option QuickClick is automatically activated. With questions of the question type

Ranking, this option enables you to jump to the next question if the selection of the last answer corresponds to the number of the maximal matches.

- **Required answer**

It is imperative that the question is answered. Only thereafter the next question can be asked.

! With the question type **Single selection** an answer is **always** required. With such questions an additional answer like “Don’t know” or “No answer” sometimes makes sense.

- **Required question (Superior “m out of n”)**

This option is only selectable if the concerning question is a sub-element of a chapter which has a certain **random “m out of n” selection**. It ensures that this question is always asked (→ See also Page 96).

- **Open-ended text allowed***

In addition to the defined answers, the respondent may give his own answer in text form with the question types **Single selection** and **Multiple selection**.

! If you have activated the function **open-ended text allowed** for the question type **Single selection**, it is imperative that you additionally create an answer, for example “Other”. With **Single selection**, at least one answer must be selected, and the open text will not be evaluated as a given answer. If the respondent would like to answer with his own text, the user must still click this answer (e.g. “other”) beforehand.

Format area:

The screenshot shows a 'Format' section with the following controls:

- Minimum:** An empty text input field.
- Maximum:** An empty text input field.
- Total number of characters:** A numeric input field with a value of 16 and up/down arrows.
- Decimal places:** A numeric input field with up/down arrows.
- Characters:** A dropdown menu currently showing 'Alphanumeric'.

- **Minimum value**

Here you can specify how small the entered number, at a minimum, can be for answers to a question of the question type **Numeric input**.

With the question type variant **Scale** this value’s minimum is -1.000.000.

- **Maximum value**

Here you can specify how large the entered number, at a maximum, can be for answers to a question of the question type **Numeric input**.

With the question type variant **Scale** this value’s maximum is 1.000.000.

! With the question type variants **Date** and **Time** the minimum value and the maximum value must be specified in the following format: YYYYMMDD (Date) or HHMM (Time).

- **Total number of characters**

Here you can specify how many characters can be used in an answer with the question types **Numeric input** and **Text input**. Spaces and commas within numbers are counted.

! Notice that the settings, under certain circumstances, can mutually cancel each other out. For example, when you set the **total number of characters to 2** and the **minimal value to 100**, an entry is not possible!

- **Total number of characters for editable result fields (Encoding)**

Here you can specify the maximum number of digits or letters which are allowed to be entered in the editable result fields of the multimedia files, of the question type **Media input**. Spaces are also counted.

- **Decimal places**

Here you can specify the maximum number of decimal places that can be used for answers to a question of the question type **Numeric input**.

- **Characters**

Here you can specify what kind of character can be entered in answers to a question of question type **Text input**.

- **Letters**
Only letters can be used.
- **Alphanumeric**
Letters and numbers can be used.

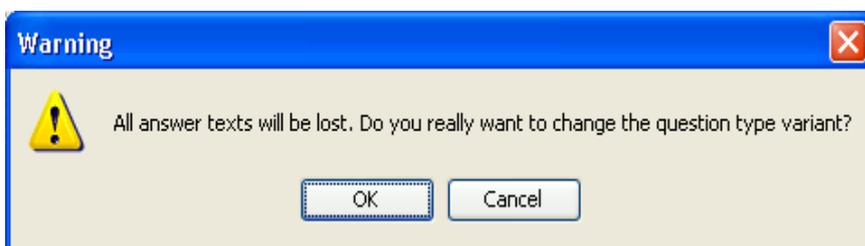
3.3.9 Creating an ImageMap

For the question types **Single selection** and **Multiple selection**, you have the possibility to create an **ImageMap** (area-sensitive image) for the answer selection. In order to do this, you can specify a selectable area in the image for every possible answer.

CREATING AN IMAGEMAP*:

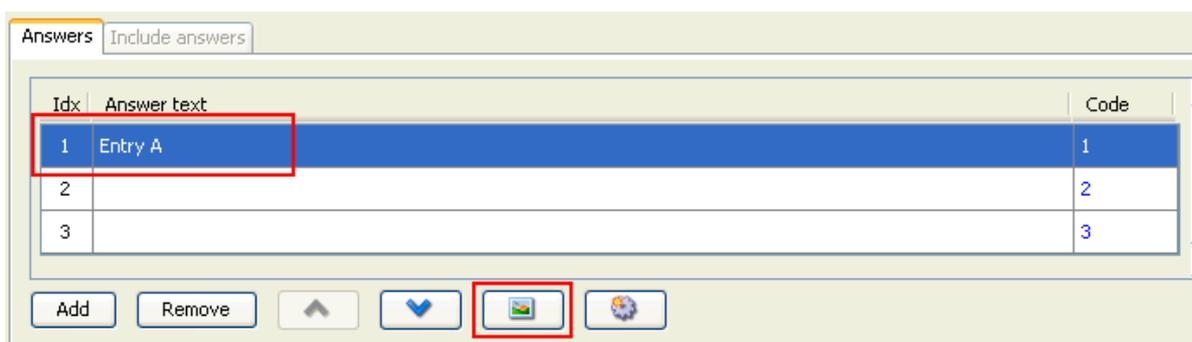
1. Load the image which you would like to use as an ImageMap in the questionnaire via **Questionnaire > Images** (→ See also Page 21).
2. In the **Element settings**, select the question type **Single selection** or **Multiple selection** from the **Question type** drop-down menu.
3. Select the image which you would like to use for the ImageMap from the drop-down menu **Image**.
4. In the Answer Area, click on **Add** to apply the desired number of answer possibilities.
5. Select the question type variant **ImageMap** in the tab **Details**.

The following warning window will be displayed:



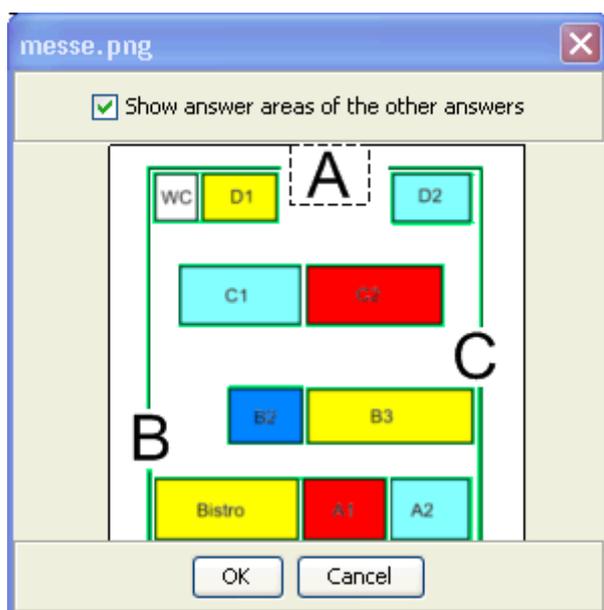
6. Confirm with **OK**.
7. Select the tab **Question** in the answer area and click on the answer for which you would like to set a selectable area in the image.

The selected answer will be highlighted.



8. Enter the desired answer text.
9. Click on  to open the image.

The window with the selected image will be displayed.



10. Hold down the mouse button and draw a rectangle around the area that should be marked as selectable area. Confirm with **OK**.

11. Repeat the steps 7 to 10 for the remaining answer possibilities.

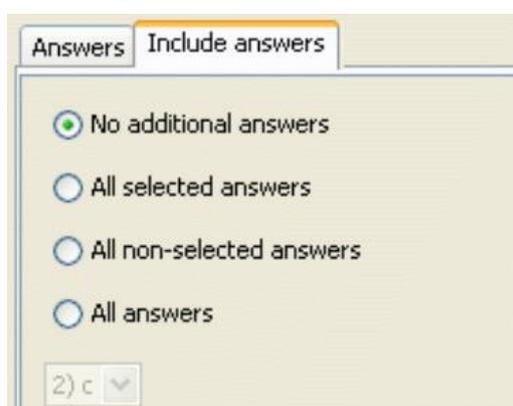
3.3.10 Including answers

There are basically two possibilities to include answers. First you can, with the help of the **Text-variable \$T**, integrate the answers from open-ended and closed questions into another text (→ See also Page 82). The second possibility is including answer possibilities of closed questions with the tab **Include answers**.

The feature **Include answers** allows you, with closed questions, to include the answers of a previous closed question. If you have, for example, several questions with the same answer possibilities, you only need to enter them once. Thereafter you can use the answers for all other questions.

Furthermore, with this function you can specifically use answers which were selected or not selected in the previous question.

Moreover, you can, in addition to the included answers, define other answer possibilities, which were perhaps not available for selection in the previous question.



! Open text answers and answers from the question types **Media input**, **Numeric input** and **Text input** cannot be included.

If a question is not asked due to a Filter, then the answers to this question will not be included into a following question unless you have selected the option **All answers**.

! You cannot include any answers into a question, if in a following question a **simple Filter** (→ See also Page 54) applies to these answers, because only directly entered answers are available for selection.

In contrast to that it is also possible to reference included answers with **Filter Pro** (→ See also Page 69 and 75).

3.3.11 Simple Filter

All questions in the mQuest Client are basically asked in successive order. It is the order in which they are defined in the questionnaire elements in the QuestEditor. The filter function is there to influence the order of questions in connection with previously given answers.

i Besides the simple filter, there are still other possibilities which influence the order of the questions: **Branching** (→ See also Page 77) and **Filter Pro** (→ See also Page 75).

With the Filter you can determine the following:

- Which conditions must be fulfilled, so that a question can be asked?
- If the conditions are not fulfilled and the question is not asked, which question should the system jump to?

mQuest Client checks the filter as follows:

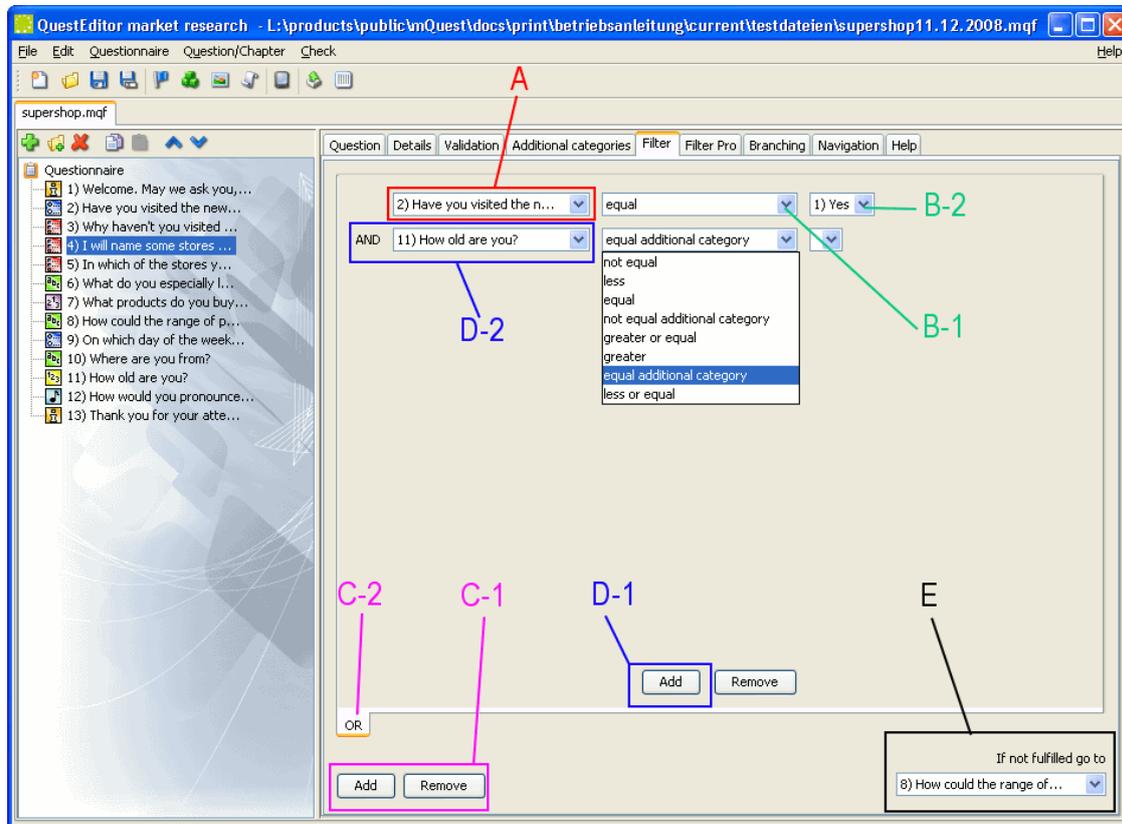
1. Before the question is asked, filters are checked.
2. If you have a filter setup, its conditions will be checked.
3. If the conditions are fulfilled, the question will be asked.
4. If the conditions are not fulfilled, the question will not be asked. Instead, mQuest Client will jump to the next question which you have selected as a jump target.

! Filters are not able to reference included answers, instead they are only able to reference own answers of a question. On the contrary, Filter Pro can reference included answers (→ See also Page 69 and 75).

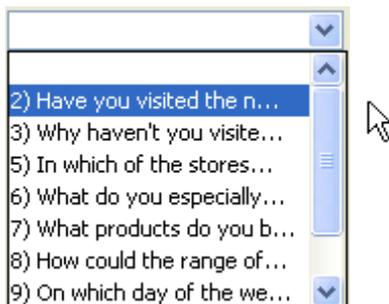
With the question type **Ranking** the filters can reference those answers which were assigned the first position in the ranking order.

FILTER SETUP:

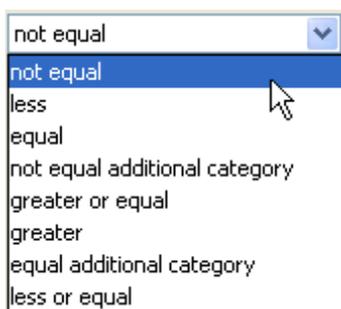
Because the tab **Filter** is very extensive, it will be described in more detail in the following. The filter shown in the following was set up as an example, so that all setup possibilities can be seen; it does not have any functions.



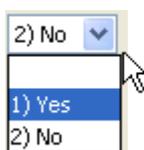
A: From the drop-down menu, select the question (here the question 2) on whose answer depends whether the current question (here the question 4) is asked.



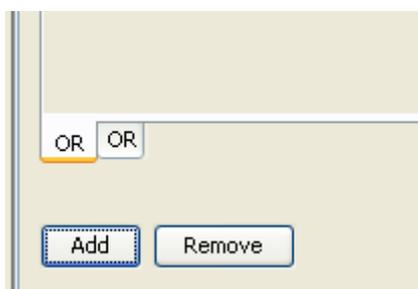
B-1: From this drop-down menu, select the type of condition, for example what answer must be given in example **A** for the filter to apply. For this, there are, depending on the question type, the following conditional operations:



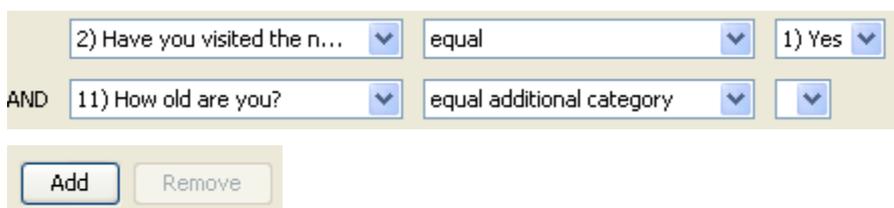
B-2: From this drop-down menu, select the answer to which the condition must apply. All answers under the question entered in example **A** are available for selection. If the question has the type **Numeric input** or **Text input**, a text field will be available for entering the answer.



C-1: With a click on **Add / Remove** you either add or remove an OR relation. An OR relation appears in a new tab with the nomenclature OR (**C-2**). You can set up further filters in this tab. The question is asked if the conditions are fulfilled by at least one of the defined filters. When removing, the OR relation of the currently selected tab is removed.

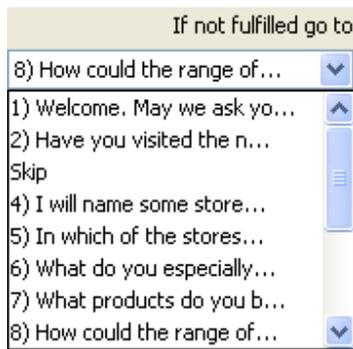


D-1: With a click on **Add / Remove** you either add or remove an AND relation. An AND relation appears in the **same** tab under the first condition (**D-2**). Here you can set up the second condition that must be fulfilled, so that the question is asked. When removing, the lowest AND relation is removed.



The number of conditions and relations is unlimited.

E: With this drop-down menu you can select which question is asked, if the conditions previously set up have not been fulfilled.



3.3.12 Jump targets

You must select a jump target to which the questionnaire will jump if the entered condition is fulfilled or not fulfilled with **Filter**, **Filter Pro**, **Branching** and **Validation**. You select the jump target via the drop-down menu **If not fulfilled go to**. Possibilities available to you are, for example, the next question, other questions and the end of the survey.

! When the question for which you set up a jump target is **within a navigable chapter or navigable loop**, the selection possibilities for the jump target will automatically be limited. Only those questions that can be found within the same navigable chapter or navigable loop will be shown. Besides the remaining questions you can also select “Complete chapter and go to chapter overview” or “End of current chapter”. In both cases the survey will jump to the chapter overview.

When the question for which you set up a jump target is **outside a navigable chapter or navigable loop**, the selection possibilities for the jump target will automatically be limited. Only those questions that can be found outside of navigable chapters or loops will be shown.

! When a preceding question has been set up as a jump target, a warning message will appear, because jumping back during the survey can be critical. By jumping back all answers are deleted from the questions which are beyond the jump target.

With back jumps in the questionnaire, it must be taken into consideration that a back jump to a not previously asked (jumped over) question in the survey is not executable. Be certain when defining a jump target that a jump always leads to either the following questions or to a preceding question which cannot be jumped over.

3.3.13 Media Attachments

Herewith you can add images, audio files and videos to your question texts. For this purpose the accordant media file needs to be added to the questionnaire beforehand (→ See also Page 22 for managing files).

Images will always be displayed right in your question text. Videos and audio files will be replaced by text links which will start the audio or the video player. You can add the files by using HTML.

ADDING AN IMAGE:

1. Add the following HTML tag to your question text at the place where your image shall be displayed:
 - ``
2. Replace **image.png** by the file name (and the file ending) of the accordant image.

ADDING AN AUDIO FILE:

1. Add the following HTML tag to your question text at the place where the link to the audio file shall be displayed:
 - `<audio src="audio.wav"> Text link </audio>`
2. Replace **audio.wav** by the file name (and the file ending) of the accordant audio file and add the text link.

ADDING A VIDEO:

1. Add the following HTML tag to your question text at the place where the link to the video shall be displayed:
 - `<video src="video.mp4"> Text link </video>`
2. Replace **video.mp4** by the file name (and the file ending) of the accordant video and add the text link.



The file formats that can be played as well as the video and the audio player which will be used depend on your mobile device.

Example A typical text may look like this:

“Click [here](#) to play the video.”

In this case **here** is the text link that you have to add to your HTML tag.

3.3.14 Question- and Answer text formatting*

With the following HTML tags you can format your question- and answer texts according to your needs.

HTML-tag	Function/ description
TEXT	The text will be displayed bold
<big>TEXT</big>	The text will be displayed bigger
<blockquote>TEXT</blockquote>	The text will be displayed in a block and will be marked with a blue vertical at the beginning of the line
 	At this tag a line break will be performed
<cite>TEXT</cite>	The text will be displayed italic and as a quote
<dfn>TEXT</dfn>	The text will be displayed italic and as a definition
TEXT	The text will be displayed in the corresponding color
<i>TEXT</i>	The text will be displayed italic
<p>	At this tag a paragraph will be performed
<small>TEXT</small>	The text will be displayed smaller
<u>TEXT</u>	The text will be displayed <u>underlined</u>
<hx>HEADING</hx>	Creates a heading; replace x with a number from 1 to 6 to determine the size of the heading
TEXT	The text will be emphasized



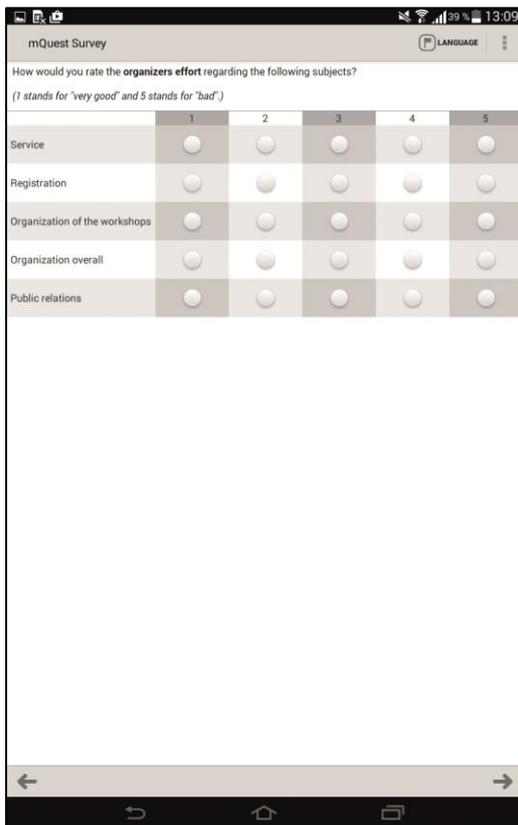
Here are some examples for possible color codes:

#FF0000 (red); #00FF00 (green); #0000FF (blue); #FFFF00 (yellow)

3.3.15 Creating a grouped question (matrix, question group)

mQuest offers you the possibility to create grouped questions. This can either be as a matrix or as a question group. In a matrix several similar questions with the same answer will be displayed in a tabular view. In a question group several different questions will be displayed in one screen.

Example for a matrix question:



CREATING A MATRIX QUESTION:

For creating a matrix question you need to add a new chapter to your questionnaire. The chapter needs the following structure:

- At first a question of the type **Message**. You may enter the question text of the matrix question here.
- Afterwards any number of questions of the type **Single selection** or **Multiple selection** to define the individual criteria.
- For all questions the **same answers need** to be defined (Hint: Define the answers in the first question and include them in the following ones - **Include answers**).
- There are no other questions or sub-chapters allowed in this chapter.
- To define this chapter as a matrix question you have to enter the following in the **Properties** tab: `questioning_chapter_composite_matrix=true`

i For Multiple selection questions within a matrix you can define single answers, just as you can for any other Multiple selection questions.
It is also possible to use filters within a matrix question.

i When you use matrix questions within loops you have the possibility to display answers from other iterations behind the matrix.
Enter the following into the **Properties tab** of the chapter:
questioning_chapter_composite_matrix_option_compare=true

i Within a matrix question you can define the width of the first column or visually separate columns at the end.
In order to do this, enter the following into the Properties tab:
Define column width: (define percentage of the display width for the first column):
questioning_chapter_composite_matrix_question_column_width_portrait=XX
questioning_chapter_composite_matrix_question_column_width_landscape=XX
Visually separate the last n columns:
questioning_chapter_composite_matrix_separate_last_column=n

CREATING A MATRIX QUESTION WITH POLARITY:

A matrix question with polarity allows comparing two values.

mQuest Survey						
Please rate the following properties of product X.						
	1	2	3	4	5	
cheap	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	expensive
high quality	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	low quality
convenient	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	inconvenient
modern	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	old fashioned
good	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	bad

The general structure is equal to normal matrix questions.

- At first a question of the type **Message**. You may enter the question text of the matrix question here.
- Afterwards any number of questions of the type **Single selection** to define the individual criteria. Separate the single values within the answer text with “@@@” e.g. good@@@bad.
- For all questions, the same answers need to be defined.
- To define this chapter as a matrix question with polarity, you have to enter the following in the Properties tab:
questioning_chapter_composite_matrix_with_polarity=true

CREATING A MATRIX QUESTION WITH AUDIO RECORDING

Additionally you have the possibility to add audio recordings as a supplement. These can be hidden or shown with the help of filters (→ See also Page 75) depending on the given answers.

The general structure of such questions is similar to the structure of regular matrix questions.

1. Create a Matrix question as described above.
2. Add a question of the type audio recording after every question of the type single or multiple selection. You can apply filters to these questions.
3. Enter the following in the chapter's **Properties tab**:

questioning_chapter_composite_matrix=true
questioning_chapter_composite_matrix_with_audio=true

CREATING A QUESTION GROUP

1. Create a new chapter.
2. Create all desired questions for this question group.
3. Enter the following in the chapter's **Properties tab**:
questioning_chapter_question_composite=true

! Please note that when using question groups under Android, HTML capability is limited.

Restrictions for grouped questions:

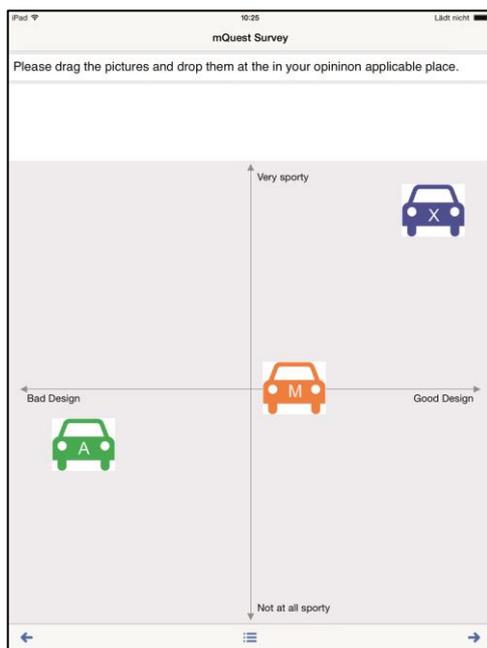
- **For the chapter of the compound questions the following setting should not be modified:**
 - Random “m out of n” selection: **All**
- If the matrix question shall be a jump target for a previous question, the jump target should be the **Message** at the beginning of the matrix chapter.

3.3.16 Creating Drag&Drop questions

With Drag&Drop questions you can place pictures one-dimensionally along an X-axis or two-dimensionally in a coordinate system with X-axis and Y-axis. The axes represent a previously defined value range. When a picture is placed, the appropriate X-value and Y-value (if used) is saved within the results.

! The question type **Drag&Drop** is supported on Android devices from version 4.0 onwards.

Example for a Drag&Drop question:



Creating a Drag&Drop question:

1. Select the question type **Drag&Drop** in the **element settings** and set **variable name**, **missing value**, **image question title** and **question** (→ See also Page 38).
2. Select the **question type variant 1-Dimensional** or **2-Dimensional** in the tab **Details**.

Example You create a Drag&Drop question in which the picture is supposed to be placed in a coordinate system. Select **question type variant 2-Dimensional**.

3. Enter the minimum and maximum value for the X-axis and the Y-axis (if used) in the **Drag&Drop configuration** area.

! For the values of the X-axis and the Y-axis only numerical values are permitted. The maximum value always has to be greater than the minimum value.

i When you have selected **question type variant 1-Dimensional** in the tab **Details**, the appropriate input boxes for the Y-axis are grayed out.

4. Enter the axis labels for the appropriate end points of the X-axis and the Y-axis.

Example:

Drag 'n' Drop configuration

Value range

X min. X max.

Y min. Y max.

Axis labels

X min. X max.

Y min. Y max.

5. Click on **Add** in the **Drag&Drop items** area to create a new picture file.

Example:

Drag 'n' Drop items Include answers

Idx	Picturefile
1	no file

Add Remove

6. Click on in order to select the media file that is uploaded to the picture file.

Example:

Drag 'n' Drop items Include answers

Idx	Picturefile
1	Icons_Drag_n_Drop_Capi.png
2	Icons_Drag_n_Drop_Cat1.png
3	Icons_Drag_n_Drop_Online.png
4	Icons_Drag_n_Drop_sp.png

Add Remove

i With you can delete the selected media file. The created picture file is not deleted from the questionnaire if the file is used at another place. With you can display the selected media file in the picture display. With **Remove** you can delete a created picture file from the question and the questionnaire. With and you can move the created picture files upwards and downwards.

3.4 Creating a multi-language questionnaire

You can create your questionnaire with the QuestEditor in several languages. The desired language can be changed between and during the surveys on the mQuest Client.

! English (en) is set as the default language.

ADDING A LANGUAGE

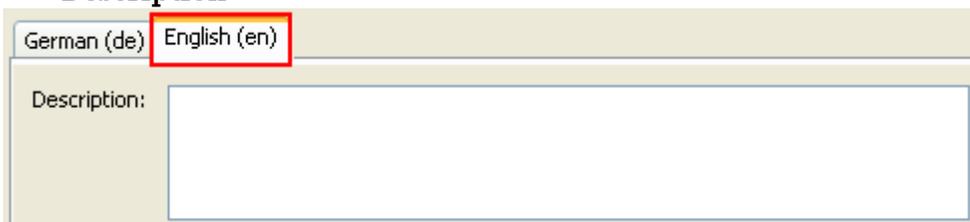
1. Click on **Questionnaire > Languages**.
2. Activate the control box for the desired language. **Additional Languages** allows you to select more languages.



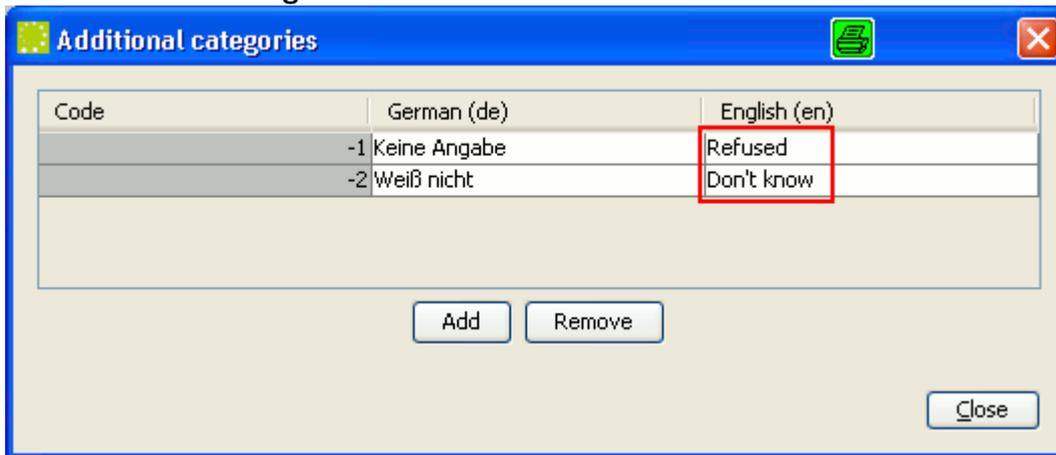
3. Click on **Close**.

After you have subsequently added the new language, tabs and columns will be automatically added to the questionnaire wherever you can perform language-dependent settings and entries. This concerns the following texts in the QuestEditor:

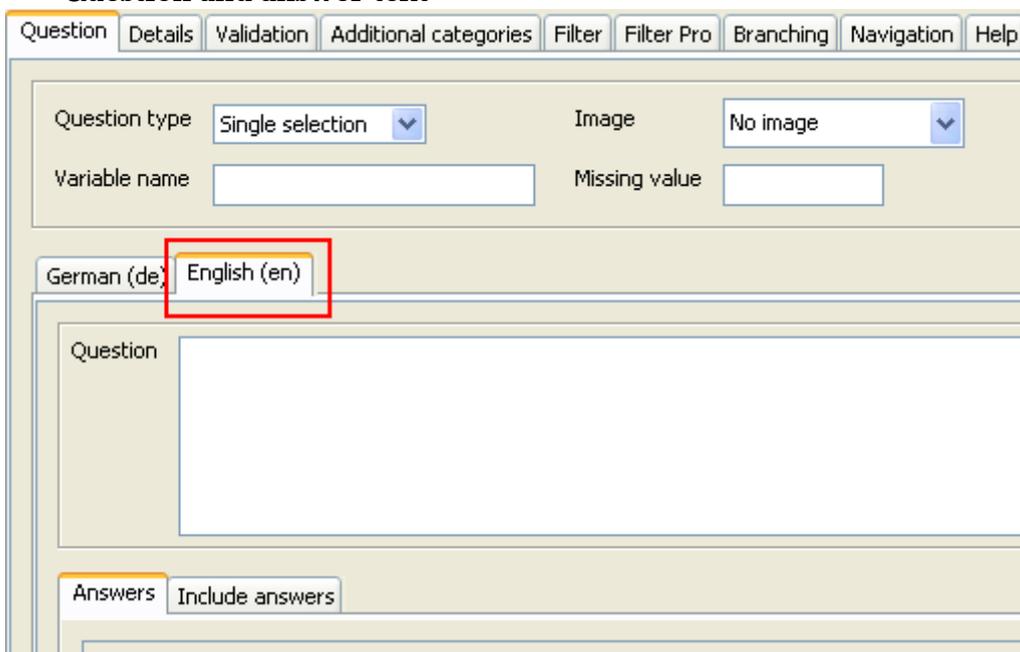
- **Description**



- **Additional categories**



- **Question and answer text**



- **Other texts, like help and hint texts, Navigation elements and Names of chapters, Loops and Loop cycles as well as Question titles and Default question titles.**

DELETING A LANGUAGE

1. Click on **Questionnaire > Languages**.
2. Deactivate the control box of the language which you would like to remove from the questionnaire.
3. Click on **Close**.



When you remove a language, all question and answer texts of the concerning language will be irretrievably deleted.



You also have the possibility to use the pre-defined Global variable **gvLang** to record in the results which survey was carried out in which language (→ See also Page 19 for the use of Global variables).

3.5 Using formulas in the questionnaire

With formulas you are able to define conditions for **Validations**, **Branching**, **Filter Pro** and **Quotas**. In addition to that, you can use them to carry out mathematical calculations within your questionnaire and allow for their results to be displayed during the survey.

You use formulas for calculations and for conditions:

- **Calculations:**
With the help of formulas you can conduct mathematical calculations in your questionnaires. With the formula variable \$F you can use the results of these calculations in the question or answer text or as a default value (→ See also Page 80). The results of the formulas are calculated during the survey and are shown.
- **Conditions:**
In addition, you can also use formulas with Branching, Validation or Filter Pro to set the respective conditions (→ See also Page 75 ff.).

! Formulas are case sensitive. Therefore, always pay attention to upper and lower case when using variables in formulas.

For the use of value variables in formulas, the number of the question must be used, not the variable name.

3.5.1 Value variables

In most formulas you use in the questions, Validations, Branching or Filter Pro, you would like to access the values of other questionnaire elements.

You can use, for example, Global variables and values of given answers. You can access these via the so-called value variables.

3.5.1.1 Value variable A – Auto-completion list

Syntax: A<Question number>.<Auto-completion list name>

Here you receive a code for the answer to a question or the value of an entry from an auto-completion list (→ See also Page 22 for the use of auto-completion lists) and can verify, for example, if an answer to a question is contained in the auto-completion list. If the answer to the question <Question number> is contained in the auto-completion list <Auto-completion list name>, then the value or code will be returned, otherwise a blank text is returned (“”).

Example:

The “Countries” auto-completion list has the following entries:



Listed in the following table is the value that is returned depending on the answer of question 7 and the used formula:

Formula condition	Returned value		
	Answer for Question 7 is "Germany"	Answer for Question 7 is "Other"	Answer for Question 7 is ""
A7.Countries == ""	0	0	1
A7.Countries == "Germany"	1	0	0
A7.Countries == "Other"	0	0	0
A7.Countries == "999"	0	1	0

3.5.1.2 Value Variable G – Global Variable

Syntax: G_<Variable name>

Here you receive the value of a Global variable (→ See also Page 19) and can verify, for example, if the Global variable has a certain value.

Example:

Listed in the following table is the value that is returned, depending on the value of the Global variable "MyVariable" and the formula used:

Formula condition	Returned value	
	Global Variable "MyVariable" has Value "MyValue"	Global Variable "MyVariable" has Value ""
G_MyVariable == ""	0	1
G_MyVariable == "MyValue"	1	0

3.5.1.3 Value Variable L – Loop cycle

Here you can check which loop cycle is being asked by using a formula (→ See also Page 108 for further information to the value variable L).

3.5.1.4 Value Variable Q – Answers

Syntax: Q<Question number> or Q<Question number>.<Answer number>

On the one side you can query which answer was specifically given or selected. For example, you receive the entered number with a numeric input or the answer number or the code of the selected answer with a single selection. You can access these values through the value variable **Q<question number>**, e.g., Q2 if you would like to use the value of the given answer of question 2 in a formula.

The second kind of value variable Q is only relevant for the question type **Single selection**, **Multiple selection** and **Ranking**. They verify whether or not a certain answer has been selected. You can access this value variable through **Q <question number>.<answer number>**, e.g., Q8.1, if you want to query whether the first answer of the question 8 was selected or not.

! Please notice that the numbering of the answers will change if you include answers into a question for which also other additional answers are defined. The number of an included answer in a previous question will be added to the number of additional answers in the new question. If you integrate, for example, the three answer possibilities which had the numbers 1, 2 and 3 in the preceding question into a question for which another two own answer possibilities are given, the integrated answer possibilities will receive the numbers 3, 4 and 5.

! If you want to refer to a question or an answer within a loop, you need to specify this loop (→ See also Page 108).

In the following you will see a table of the concrete values which you receive according to the question type and the type of the value variable Q.

Question type	Q<Question number>	Q<Question number>.<Answer - number>
Numeric input	The input as a number.	Not possible.
<i>Additional category</i>	The code of the suitable additional category.	Not possible.
Text input	The input as a text.	Not possible.
<i>Additional category</i>	The code of the suitable additional category.	Not possible.
Single selection	The number of the given answer. If a code was assigned, this is preferred. The code is then either number or text. If the code is set as a number, you must separate the decimal place with a period instead of with a comma!	Selected = 1 Not selected = 0
<i>Additional category</i>	The code of the suitable additional category.	The code of the suitable additional category.
Multiple selection	Not possible.	Selected = 1 Not selected = 0

<i>Additional category</i>	Not possible.	The code of the suitable additional category.
Ranking	The answer number of the answer which was put on position 1.	Selected position of the answer number. If no position was awarded for it = 0.
<i>Additional category</i>	The code of the suitable additional category.	The code of the suitable additional category.



The question types **Message** and **Media input** cannot be referenced by any formula.

3.5.1.5 Extension C of the value variable Q

If a question, due to filters or jumps during survey, is not asked, you are still able to use it in a formula. You have the possibility to assign a defined value (positive integer) which is then automatically used with the formula calculation if the question was not asked.

- **C-Extension for a question**

Syntax: Q<Question number>C<Value>

If e.g., Q21C1 is in a formula, but question 21 is not asked and thus cannot be answered, this variable automatically returns the value as 1 during the formula calculation.

- **C-Extension for answers**

Syntax: Q<Question number>.<Answer number>C<Value>

If e.g., Q12.4C0 is in a formula, but question 12 is not asked and no answer can be evaluated, this variable automatically returns the value as 0 during the formula calculation.

3.5.1.6 Other Value Variables

- **RC** (Result count)
Returns the number of the previous results
- **DSRS** (Duration since result started)
Returns the time since the start of the survey (in seconds)
- **DSLRL** (Duration since last result)
Returns the time since the last result (in seconds)
- **DSLRLM** (Duration since last result minute)
Returns the time since the last result (in minutes)
- **DSLRLH** (Duration since last result hour)
Returns the time since the last result (in hours)
- **TODAY**
Returns the current date in the following format: YYYYMMDD
- **TIME**
Returns the current time in the following format: HHMMSS

- **BATTERY**
Returns the current battery status of the mobile device in percent
- **LANGUAGE**
Returns the current questionnaire language
E.g. $\$F\{LANGUAGE=="en"\}$ → There will be a 1 if the language is English, 0 if not
- **CHANNEL**
Returns the current platform of the client, e.g. OFFLINE_ANDROID for Android Client.
- **PROGRESS**
Returns the progress of a survey expressed as a percentage.

3.5.2 Operators

You can use the common operators listed below with all formulas. With those you can combine several conditions (Boolean expressions) with logical or with mathematical operators. Additionally, expressions can also be put in parentheses.

Mathematical Operators:

Math. Operator	Function
+	Addition
-	Subtraction
*	Multiplication
/	Division

! When using figures within the formulas you must separate the decimal positions with a period. If you use a comma instead of a period, the number will not be recognized and the calculation cannot be carried out.

With the value variables that return text, e.g., with text inputs or codes, you cannot apply mathematical operators.

To combine several Boolean expressions with mathematical operators it is absolutely necessary that each of the Boolean expressions is parenthesized individually. The mathematical value of an expression (e.g., $Q1 == Q2$) is either 1 for fulfilled or 0 for not fulfilled. Such a formula must be parenthesized as follows: $(Q1 == Q2) + (Q2 == Q3)$.

Comparative operators:

Comparative operators	Function
==	equal
!=	not equal
>=	equal to or greater than
<=	equal to or less than
>	greater than
<	less than

i The comparative operators == and != not only work with numbers but also with text. For this purpose, the comparative text must be put in quotation marks. You can verify, e.g., whether the given text answer from question 1 is similar to that of a certain text. The comparison would then be as follows: **Q1 == "Berlin"**.

A comparison of a given text answer can also be made, for example, with the value of the Global variable **City** of the questionnaire. The comparison would then be as follows: **Q1 == G_City**.

Logical operators:

You can also combine several conditions by using logical operators.

Logical Operator	Function
&&	and
	or

Other Operators:

Operator	Function
%	Modulo
!	Negation

Text functions

Operator	Function	Example	Result
round	rounds a number	$\$F\{\text{round}(2,5)\}$	3
ceil	rounds up	$\$F\{\text{ceil}(2,1)\}$	3
floor	rounds down	$\$F\{(2,9)\}$	2
str	converts a number to a string	$\$F\{\text{str}(Q1)\}$	number as string
substr(str, start, [end])	extracts a part of a string	$\$F\{\text{substr}(Q1, 4, 9)\}$	the substring
match("reg,{numberOfSigns}",input)	checks regular expression	$\$F\{\text{match}("\[a-zA-Z0-9\],\{3,10\}",Q1)\}$	For Q1: > only letters and numbers allowed > min. 3 signs > max 10 signs
contains("keyword","text")	checks if "keyword" is contained in "text"	$\$F\{\text{contains}("a",Q1)\}$	1 if <a> is contained in answer of Q1, 0 if not
if(cond, trueval, falseval)	if-condition	$\$F\{\text{if}((Q1<7),1,0)\}$	if answer of question 1 is smaller than 7 result is 1, 0 if not
trim(str)	deletes leading and trailing spaces of a string	$\$F\{\text{trim}(Q1)\}$	the string without leading and trailing spaces
len(str)	calculates the length of a string	$\$F\{\text{len}(Q1)\}$	length of string as a number
parseNumeric	converts a string into a numeric value	(→ See Example)	
taskparam(x)	returns the value of a task parameter	$\$F\{\text{taskparam}(\text{"param 1 Key"})\}$	Value of the parameter "param 1Key"

You can use all text functions also with answers of questions or Global variables.

Example By default the values of Global variables are interpreted as text. If you define an integer as a value for a Global variable, this input can be interpreted as a numeric value.

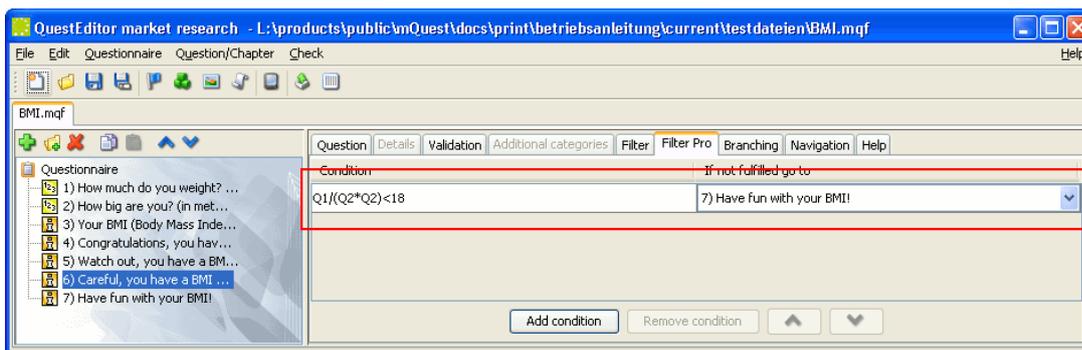
For example you can use the current rotation of a chapter in a calculation:

\$F{ parseNumeric(G_gvRotation) ...}

3.5.3 Filter Pro

This function is an extension of the simple filter function (→ See also Page 54), so that you can realize complex filters. In Filter Pro, you can set a condition with the help of the formulas, which is checked **before** a question is asked. If the condition of Filter Pro is fulfilled, then the question will be asked. Otherwise, the questionnaire will jump to the question which you have selected as a target.

i The formula condition $Q1/(Q2*Q2)<18$ checks if the calculated body mass index is (BMI)<18. Therefore, the question with Filter Pro will only be asked if the result is smaller than 18. If the BMI is ≥ 18 , the questionnaire will jump to question 7.



ADJUSTING FILTER PRO:

1. Click on the question to which you would like to add the **Filter Pro**.
2. Click on the tab **Filter Pro** in the **Element settings**.
3. Enter a formula condition in the table cell **Condition** (→ See also Page 68 for the use of formula conditions).
4. In the table cell **If not fulfilled, go to** select the question, to which the survey shall jump if the condition is not fulfilled.

In the survey, the question for which the Filter Pro was set will only be asked if the formula condition is fulfilled. Otherwise the questionnaire will jump to the question you defined as the jump target.

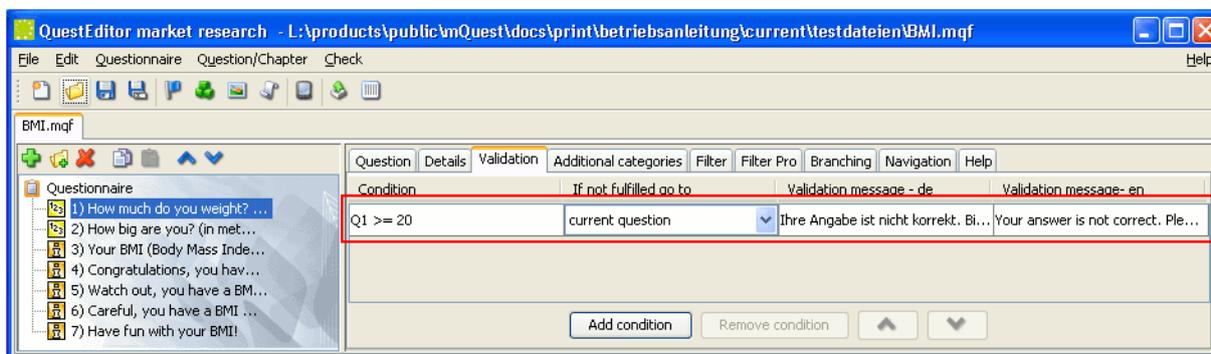
You can define several conditions which will all be checked. The evaluations of the conditions are carried out from top to bottom. If all conditions apply, then the question will be asked. As soon as one condition is not fulfilled, the questionnaire will jump to the question which you defined as the jump target.

3.5.4 Validation

With the Validation you can check for correctness of user inputs. In doing so you can avoid that the answers given by the respondent are contradictory. In contrast to the Filters, which are checked before a question is asked, the Validation comes into effect **after** the question has been answered.

With formulas you set a condition which must be fulfilled, so that the questionnaire can continue as planned. If the condition is not fulfilled, you can set an error message which will be displayed and the question that the questionnaire will be continued with in this case.

i If for example, a survey is carried out for the body mass index ($BMI = Q1 / (Q2 * Q2)$), you can prevent an unrealistic weight from being entered by defining that the weight has to be ≥ 20 kg using the condition $Q1 \geq 20$. If this is not the case, a validation text is displayed and the questionnaire cannot be continued.



ADJUSTING VALIDATION:

1. Click on the question to which you would like to add a **Validation**.
2. Click on the tab **Validation** in the **Element settings**.
3. Enter a formula condition in the table cell **Condition** (→ See also Page 68 for the use of formula conditions).
4. In the table cell **If not fulfilled, go to**, select the question to which the survey shall jump if the condition is not fulfilled.

i The jump target can be the same question as the question for which the Validation applies. In this case the question will be repeated until the condition is fulfilled.

5. In the table column **Validation text - en**, enter the text that shall be displayed in the mQuest Client if the condition is not fulfilled.
6. Enter the text also in the column **Validation text - de** because the application language of the mQuest Client is available both in English and in German.

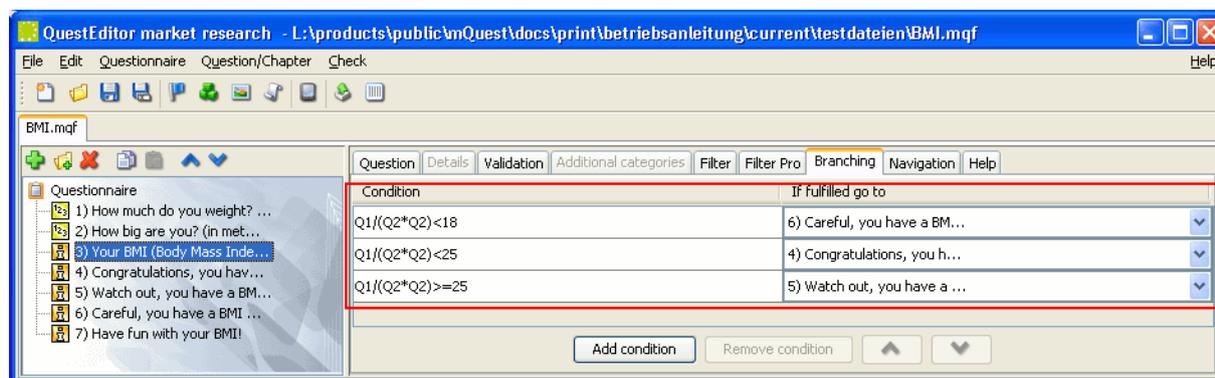
You can define several conditions which will all be checked. The evaluation of the conditions is carried out from top to bottom. As soon as one condition is not fulfilled, the instruction defined within it will be executed.

3.5.5 Branching

With the help of Branching you can define a condition with a formula and define a question to which the system should jump if this condition is fulfilled. Branching checks this condition **after** the question has been answered.



The formula condition $Q1/(Q2*Q2)<18$ checks, for example, whether the calculated body mass is (BMI) <18 . If this applies, the survey will jump to question 6.



ADJUSTING BRANCHING:

1. Click on the question to which you would like to add the **Branching**.
2. Click on the tab **Branching** in the **Element settings**.
3. Enter a formula condition in the table cell **Condition** (→ See also Page 68 for the use of formula conditions).
4. In the table cell **If not fulfilled, go to**, select the question to which the survey shall jump if the condition is not fulfilled. You can define several conditions which will all be checked. The evaluation of the conditions is carried out from top to bottom. As soon as one is fulfilled, it will jump to the question defined within it.

3.5.6 Evaluation sequence of functions with conditions

With the functions **Filter**, **Filter Pro**, **Branching** and **Validation** you can control the order of the survey's questions in the mQuest Client. Depending on the defined conditions, a question is displayed or the questionnaire jumps to another question. The functions are evaluated in the following order:

- 1. **Filter Pro** (before the question is displayed)
- 2. **Filter** (before the question is displayed)
- 3. **Validation** (after the question is displayed)
- 4. **Branching** (after the question is displayed)

3.5.7 Quotas

For checking and controlling quotas you can use quota variables. A quota variable has a unique name, a condition and a value (counter). The quota variable can be used in any formula (→ See Example). The value of a quota variable is valid for the whole survey project and can be influenced by all surveys of a questionnaire.

At the end of the survey the conditions of the quota(s) are evaluated. If the condition of a quota applies, the quota value will be increased by 1. Until synchronization the quota value is increased only locally on the respective mQuest Client.

Once the mQuest Client transfers survey results, the quota values will be transferred as well. The current value of a quota is saved centrally on the QuestServer. During synchronization the quota values of all surveys are added to this central value. Afterwards the mQuest Client receives the updated quota value, which might have been influenced by the result data of other surveys since the last synchronization.

Example In an exhibition questionnaire you define the two quotas “private” and “business”. At the beginning of the survey you collect the information whether the respondent arrived for private or for business reasons. Depending on the answer, the corresponding quota will be increased with each survey. Via Filter Pro you defined that the project questionnaire shall jump to the survey’s end as soon as one of the quota values reaches a certain value.

With the help of quotas you can ensure that only a certain number of persons will be surveyed which arrived for business or private reasons.

That way you can determine when the case number is reached and prevent unnecessary surveys.

With the QuestAdmin you can display and adapt the value of a quota (→ See also Page 159).

ADDING / REMOVING QUOTAS

1. Click on  in the toolbar or on **Questionnaire > Quotas**.
The window Quotas will open.
2. Click on **Add** to define a new quota variable.
3. Enter any unique name for the quota variable in the field **Quotas variable name**.
4. In the field **Enhance quota counter, when** enter the formula condition that defines in which case the quota value shall be increased.
5. Click on **Add** if you want to define further quotas or select a quota and click on **Remove** to remove it.

Use quotas and formulas in texts

You can use quotas in formulas and texts, e.g. to control the questionnaire flow by using a quota within a Filter Pro formula.

Syntax: QV_{Quota variable name}

Examples:

Within the Filter Pro: **QV_business == 20**

Within a text variable: **“All in all, you have already surveyed \$F{QV_business} persons which arrived for business reasons.”**

3.6 Text replacement functions / text variables / Properties

mQuest offers you the possibility to integrate values of text variables into question texts, answer texts and default values. That way you can display calculated values or given answers.

In the following table you can see which text variable you can use on which position in the questionnaire:

	\$F	\$G	\$L	\$P	\$T	\$V	\$A	\$U
Answer text								
Answer text / Default value								
Default question title								
Question title								
Questionnaire description	✓	✓	✗	✓	✓	✓	✓	✓
Chapter name	✓	✓	✓	✓	✓	✗	✓	✓

! The value of the variables **\$F** and **\$T** will only be displayed if the questions which the variables are referring to have already been asked. Otherwise the output is **???**.
The variable **\$L** will only be displayed if the current question is within a loop cycle.

3.6.1 Text variable \$F – Display values from formula calculations

Syntax: $\$F\{\text{Formula calculation}\}$

With the help of the formula calculation you can carry out any mathematical calculation. The results of the formulas are calculated and displayed during the survey.

For the formula calculations you can use the **value variable Q** (→ See also Page 69).

Example With the question text “You have a BMI (Body Mass Index) of $\$F\{Q1 / (Q2 * Q2)\}$!” in question 3, the BMI is calculated and the calculated value is displayed. The calculation of the BMI consists of body weight/ (body height in meters)². The value variable Q1 uses the entered answer from question 1, which is the body weight. Q2 contains the value of the body height from question 2.

3.6.2 Text variable \$G – Display Global variables

Syntax: \$G{Name of the Global variable}

Here you can integrate the value of a Global variable into texts, e.g., “the current survey location is \$G{City}”.

3.6.3 Text variable \$L – Display description of the current loop cycle

Syntax: \$L

You will receive more detailed information to the text variable \$L in the chapter Formulas and variables for loops (→ See also Page 107).

3.6.4 Text variable \$P – Display text dependent on formula

Syntax: \$P{(Formula condition)->Text}

Here you are able to display, depending on a formula condition, text into question texts and answer texts, as well as default text from questions of the type Text input, e.g., \$P{(Q2==“female”)-> Mrs.}\$ P{(Q2==“male”)-> Mr.}. Only when the shown condition is fulfilled, the suitable text will be displayed. Thereby, you are able to integrate another value variable into the display text (→ See also Page 68). Please note that you can only display one single value variable in the display text. However, it is possible with every variation to display any text before or after a value variable. The text must not contain any parentheses.

Examples:

- \$P{(Formula condition)->Text}
- \$P{(Formula condition)->[Text](G_<Variable name>)[Text]}
- \$P{(Formula condition)->[Text](Q<Question number>)[Text]}

i In answer texts of questions of the question types **Single selection**, **Multiple selection** and **Ranking** you can dynamically show or not show the answer possibilities with the help of the text variable \$P. If the formula condition is not fulfilled and no text is given as an answer, the answer option remains empty and is therefore not displayed in the mQuest Client.

3.6.5 Text variable \$T – Display answer text

Syntax: \$T{<Question number>}

Herewith you display a given answer of a certain question and then integrate this answer into another text, e.g., “How often do you attend \$T{2}?” ties the answer of question 2 into the current question.



The displayed text differs depending on the question type of the referenced question:

Single selection: The text of the given answer possibility is displayed, even if answer codes are used.

Multiple selection: All texts of the selected answer options are displayed, separated by a comma.

Ranking: Only the text of the answer possibility on position 1, the answer which was chosen first, will be displayed.

Text/Numeric input: The entered text or the number will be displayed.

3.6.6 Text-variable \$V – Display variable name

Syntax: \$V

Herewith you display the variable name of the current question. Thus, you can include it into the question and into the answer text.

3.6.7 Text variable \$A – Include entries of auto-completion list

Syntax:

\$A{<question number>,ACLName}

\$A{Q<Question number>,ACLName}

\$A{<loopId>Q<Question number>,ACLName}

\$A{G_<Varname>,ACLName}

Herewith you take the result out of question <question number> or the value of the global variable <Varname>, determine the matching entry in auto-completion list <ACLName> and deliver the code (value) as result or “” if there is no matching entry in the auto-completion list.

If there is a simple list without codes, the key itself will be delivered.

3.6.8 Text variable \$U – Display User input

Syntax: \$U{<Question number>}

Use this text variable to display and include the answer to a question type Text input.

When using an auto-completion list with codes, not the code, but the text entered as an answer to the question will be displayed.

3.6.9 Using text variables in the questionnaire description and in question titles

Text variables in the questionnaire description

You can use text variables in the questionnaire data in the field **Description**. The current value of this variable can then be displayed via **Menu Button > Project data** in the mQuest Client.

Example In the QuestEditor you defined the global variable “City” for your project questionnaire and assigned the value “Karlsruhe” to it in the mQuest Client (→ See also Page 19 and the **mQuest Client Manual**). Now you can use the expression `$G{City}` in the questionnaire data in the field **Description**, for example “The current value of the Global variable “City” is `$G{City}`”. During the survey, the questionnaire description can be displayed under **Menu Button > Project data** in the mQuest Client. Here the entry at “Description” is now “The current value of the Global variable “City” is Karlsruhe”. This way you can verify the value of the Global variable at any time.

Text variables in question titles

It is possible to use text variables in **question titles** as well as in the **default question title**. This way you are able to display current values of text variables directly in the title of a question, e.g. answers of previous questions, the current battery status etc.

i If you are using a text variable which refers to the answer of another question, this question must have already been asked, so that the corresponding value can be displayed in the project data or as the question title. Otherwise the output is **???**.

3.6.10 Questionnaire- / Chapter- and Question-Properties

With the following properties you can adjust several settings concerning the whole questionnaire, chapters and single questions.

The properties have to be set in the QuestEditor in the Properties tab right at the element you want to adjust.

i There are no validations whether the properties typed in are correct or not.

Questionnaire Properties:

Property	Possible values	Description
questioning_cancel_password=	secret	here you can set a password for canceling surveys
questioning_end_chapter_validation_password_if_incomplete=	secret	password check before ending the questionnaire if a required chapter is incomplete
questioning_next_qnnaire=	questionnaire name	here you can type in the name of the questionnaire that shall be started after the one with the property set*
questioning_user_start_enabled=	true/false	when set to “false”, the questionnaire cannot be started manually. It only can be started from another questionnaire via questioning_next_qnnaire*
questioning_sync_before_starting_follow_up_qnnaire_if_auto_sync_setting_is_enabled=	true/false	Synchronizes the data for linked questionnaires. <Upload data after questioning> must be enabled in the QuestServer Settings.*
questioning_result_review_enabled=	true/false	If “true”, the review function will be activated.
questioning_result_review_password=	secret	Sets the password for the review function
questioning_auto_cancel_after=	integer	Sets the time (in seconds) of inactivity before cancelling the current interview and returning to the start screen
questioning_use_default_value_if_numeric_empty	true/false	If “true”, the value of the C-Extension is used in case the numeric input is empty

Chapter Properties:

Property	Possible values	Description
export_asMatrix=	true/false	When “true”, the chapter will be shown in the RTF-document as a matrix
questioning_chapter_composite_matrix =	true/false	When “true”, the chapter will be displayed as a matrix
questioning_chapter_composite_matrix_option_compare=	true/false	When “true”, results from previous loops will be displayed behind the matrix
questioning_chapter_composite_matrix_with_audio=	true/ false	When “true”, additional audio questions can be used in a matrix question
questioning_chapter_composite_matrix_with_polarity=	true/ false	Allows to compare pairs of values in a matrix
export_showChapterAlways=	true/false	When “true”, the chapter will always be displayed in the exported RTF-document
questioning_chapter_validation_password_if_incomplete=	secret	Password check when leaving the chapter-navigation-validation in case a required chapter is incomplete
questioning_chapter_question_composite=	true/false	Displays several questions on one screen
questioning_chapter_overview_textsearch=	true/false	Enables to search chapters in the chapter overview with a text input field (only iOS)
questioning_chapter_overview_textsearch_option_fulltextsearch=	true/false	Enables to search chapters or loops in the chapter overview with a text input field using full-text search. Can only be used in combination with “questioning_chapter_overview_textsearch” (only iOS)
questioning_chapter_overview_textsearch_show_keyboard_always=	true/false	Used in combination with “questioning_chapter_overview_textsearch”. Always shows the keyboard when entering or returning to the chapter overview (only iOS)

questioning_chapter_question_composite_focus_first_user_input=	true/false	Finds the first Text input or Numeric input question and focuses on its input field in order for the keyboard to appear
questioning_chapter_question_composite_padding=	0-N	Determines the distance between the questions in a composite question e.g. "5" for a distance of 5 pixels
questioning_chapter_composite_matrix_question_column_width_portrait=	0-100	Determines the width of a question-column in a matrix question (in portrait format). The value is a percentage of the total display width. In a matrix question with polarity the value will be used for the first and the last column, e.g. if the value is set to "25", the first and the last column will be 25% and the remaining answer columns will be 50% of the total display width
questioning_chapter_composite_matrix_question_column_width_landscape=	0-100	Determines the width of a question-column in a matrix question (in landscape format). The value is a percentage of the total display width. In a matrix question with polarity the value will be used for the first and the last column, e.g. if the value is set to "25", the first and the last column will be 25% and the answer columns will be 50% of the total display width.
questioning_chapter_composite_matrix_separate_last_column=	1-N	Separates the N-th (from right) column in a matrix question with a bold line from the other columns
questioning_chapter_overview_no_re_enter_confirmation=	true/false	Disables the warning message when a sub-element of a navigable chapter or a navigable loop has been already finished and is asked once again

Question Properties:

Property	Possible values	Description
questioning_questionHidden=	true/false	When “true”, the question will not be shown during the survey. Usage e.g. for calculating variables by using the default value. Only for question types Text input and Numeric input.
questioning_question_refresh_default_value_on_next=	true/false	When “true”, the default value (if set) of the question will be refreshed when you get to this question with the “Next” button.
questioning_question_acl_required=	true/false	For text input questions with auto-completion lists. When set to “true”, only answers are allowed that are in the list.
questioning_question_acl_sql_filter=		With this property you can define a preselection according to a .macl -auto completion list. The value of the first column is “value_0”.
question_set_response_to_global_var=	VarName	Stores result of the current question in a global variable.
questioning_question_heatmap_polygon_color=	Hexadecimal color code	Defines the highlighting color in heat map questions e.g. #FF0000 for red.
questioning_question_acl_fulltextsearch=	true/false	Enables a full text search in auto completion lists which also searches for parts of the words.
questioning_question_acl_extended_fulltextsearch=	true/false	Enables a full text search in auto-completion lists which also searches for parts of several words; e.g. searching for “bah sü” will return “Südbahnhof” and “Bahnhof Süd”

questioning_question_single_line_uin=	true/false	Shows a question of the question type Numeric input as a single line with the question text on the left and the input field on the right (only iOS).
questioning_question_multiple_choice_sections=	Semicolon separated numbers	Creates different answer sections for Single selection questions and Multiple selections questions that are visually separated. The given numbers represent indices of answers at which new sections will start e.g. "4;7" for a question with 10 answers creates 3 sections (1-3, 4-6, 7-10) (only iOS).

3.7 Change history

The change history of the QuestEditor logs the changes to your questionnaire. You can delete the change history as well as export it as a file.



The change history logs both saved and unsaved changes. However, unsaved changes can be made “undone”. For example, if you add a question to your questionnaire, this change will immediately be logged to the change history. If you remove this question again without saving previously, both entries (adding and removing the question) will be deleted from the change history. If you save the questionnaire between these two steps, both entries will be preserved in the change history.

OPENING THE CHANGE HISTORY:

→ Click on **Check and test > Show change history** or on  in the toolbar.

The change history will open in a new window.

Date	Change type	Element type	ID [Variable name]	Element sub type	Old value	New value
Actual change	(-) Removed	Question	# 11	Answer <deleted>	-	-
Actual change	(-) Removed	Question	# 11	Answer <deleted>	-	-
Actual change	(-) Removed	Question	# 11	Answer <deleted>	-	-
Actual change	(!) Changed	Question	# 11	Answer <deleted>	-	-
Actual change	(!) Changed	Question	# 11	Yamame	SERVICE	
Actual change	(!) Changed	Question	# 11	Question type	Single selection	Message
Actual change	(!) Changed	Question	# 11	Quick click	Yes	No
Actual change	(!) Changed	Associated questions		Position	3 to 6	4 to 7
Actual change	(!) Changed	Associated questions		Position	7 to 12	9 to 14
Actual change	(!) Changed	Associated questions		Position	14 to 15	15 to 16
Actual change	(!) Changed	Associated questions		Position	16 to 24	19 to 27
04/20/2011 11:16:10 AM	(!) Changed	Questionnaire data		Project name	SampleQuestionnaire	SampleQuestionnaire
02/04/2011 01:38:08 PM	(!) Changed	Question	# 25 [AGECAT]	Question type	Text input	Numeric input
02/04/2011 01:38:08 PM	(!) Changed	Question	# 25 [AGECAT]	Question text (de)	Automatische Berechnung "Kategorie Alter" TODO UIN	Automatische Berechnung "Kategorie Alter"
02/04/2011 01:38:08 PM	(!) Changed	Question	# 25 [AGECAT]	Total number of characters	255	16
02/03/2011 07:13:05 PM	(!) Changed	Chapter	Statistics / Validation / Variab...	Chapter name (en)	Statistics / Validation / Hidden question	Statistics / Validation / Variable calculation
02/03/2011 07:13:05 PM	(!) Changed	Chapter	Statistics / Validation / Variab...	Chapter name (de)	Statistik / Validierung / Versteckte Frage	Statistik / Validierung / Variablenberechnung
02/03/2011 07:12:47 PM	(!) Changed	Chapter	Statistics / Validation / Variab...	Chapter name (en)	Statistics / Validation	Statistics / Validation / Hidden question
02/03/2011 07:12:47 PM	(!) Changed	Chapter	Statistics / Validation / Variab...	Chapter name (de)	Statistik / Validierung	Statistik / Validierung / Versteckte Frage
02/03/2011 07:10:04 PM	(!) Changed	Chapter	Journey / Filter and auto co...	Chapter name (en)	Anreise	Journey / Filter and auto completion list
02/03/2011 07:10:04 PM	(!) Changed	Chapter	Likes / Audio recording and s...	Chapter name (en)	Eindruck / Audioaufnahme und Skala	Likes / Audio recording and scale
02/03/2011 07:10:04 PM	(!) Changed	Chapter	Einleitung / Verzweigung	Chapter name (de)	Einleitung / Verzweigung	Introduction / Branching
02/03/2011 07:10:04 PM	(!) Changed	Chapter	Screening / Quota Control	Chapter name (de)	Screening	Screening / Quota Control
02/03/2011 07:10:04 PM	(!) Changed	Chapter	Screening / Quota Control	Chapter name (de)	Screening	Screening / Quotenkontrolle
02/03/2011 07:10:04 PM	(!) Changed	Chapter	Visitor aim / Text input	Chapter name (en)	Main aim / Text input	Visitor aim / Text input
02/03/2011 07:06:10 PM	(!) Changed	Questionnaire data		Project name	Demo_Messe	SampleQuestionnaire
01/25/2011 10:15:10 AM	(!) Changed	Question	# 27 [GPS]	Question text (en)	Thank you for your cooperation. INT: Please capture lo...	Thank you for your cooperation. INT: Please capture location. Thi...
01/25/2011 10:15:10 AM	(!) Changed	Question	# 27 [GPS]	Question text (de)	Ich danke Ihnen für Ihre Mitarbeit. INT: Bitte Ortsbesti...	Ich danke Ihnen für Ihre Mitarbeit. INT: Bitte Ortsbestimmung für...
01/24/2011 09:08:23 AM	(!) Changed	Question	# 27 [GPS]	Question text (en)	Thank you for your cooperation. INT: Please capture lo...	Thank you for your cooperation. INT: Please capture location. Thi...

The change history contains the following columns:

- **Date**
This entry contains the date and the time of the last saving, with which new changes were logged. For unsaved changes this entry is “Actual change”.
- **Change type**
This entry specifies which type of change has been made. There are three different change categories:
 - **(+) Added**
Something has been added to the questionnaire.
 - **(-) Removed**
Something has been removed from the questionnaire.
 - **(!) Changed**
Questions or chapters in the questionnaire have been changed.
- **Element type**
This entry specifies which element type of the questionnaire has been changed, e.g. question, chapter, loop etc.

- **ID [Variable name]**
This entry contains the question number or the chapter name of the element which has been changed, as well as the variable name of the specific questionnaire element.
- **Element sub type**
This entry specifies what exactly has been changed in the questionnaire element. This entry is empty if a chapter or a question has been added to the questionnaire.
- **Old value**
This entry contains the old value of the changed questionnaire element. This is for example the old position of a question, the old question type, the old variable name etc.
- **New value**
This entry contains the new value of the changed questionnaire element. This is for example the new position of a question, the new question type, the new variable name etc.

Sorting the change history

By default all entries in the change history are sorted by date. However, you can sort the changes by any of the other columns, e.g. to see at a glance which changes were made to a specific question.

→ Click on the column title by which you want to sort the change history.

DELETING THE CHANGE HISTORY:

1. Click on **Check and test > Show change history > Delete.**
2. Confirm with **Yes** to delete the whole change history.

EXPORTING THE CHANGE HISTORY:

1. Click on **Check and test > Show change history > Export.**
2. Follow the steps of the dialog.

4 Organize questions with chapters and loops: QuestEditor

You have the possibility to organize your questions in chapters and sub-chapters and to sort them thematically. This enables you to design your questionnaire more clearly. By setting individual preferences for every chapter you can flexibly adapt the content and the processing of the sub-elements to your needs, e.g., change the query order of the sub-elements.

! Questions and other chapters are so-called sub-elements of a chapter. It is possible to use a maximum of 15 levels.

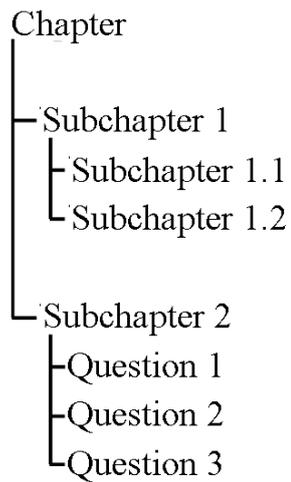
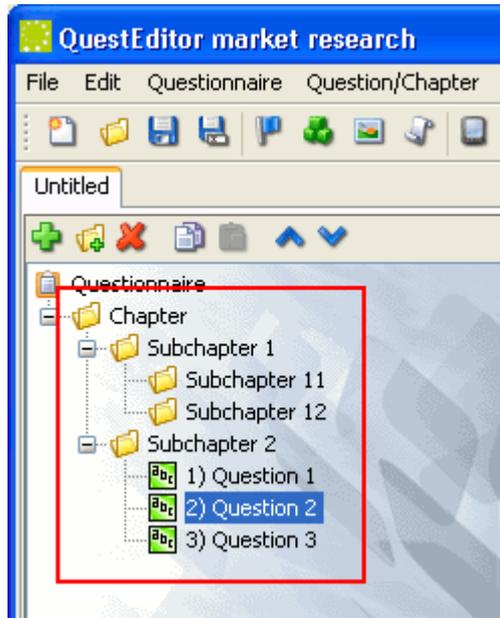
Chapters can be converted to loops. This extension possibility is helpful if you want to ask the same questions about several objects (e.g., different vehicle models). The creation of the questionnaire is simplified, because you can create the questions for the options only once and apply them several times thereafter. With the loop cycle you define for which objects (for example, vehicle model A, B, C and D) these questions are asked.

! A chapter becomes a loop if you add **loop cycles**. These are the direct sub-elements of a loop, however, not visible in the questionnaire elements area in the QuestEditor. The next lower level is again composed of chapters and questions.

4.1 Hierarchy of the questionnaire elements

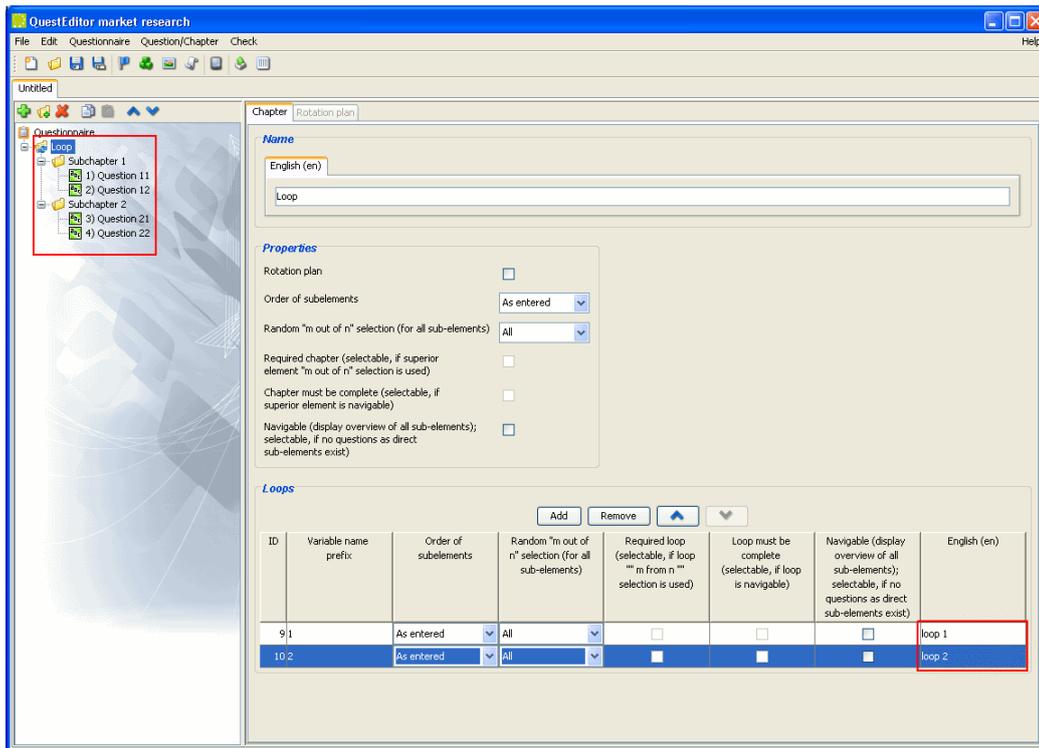


Hierarchy when using chapters:

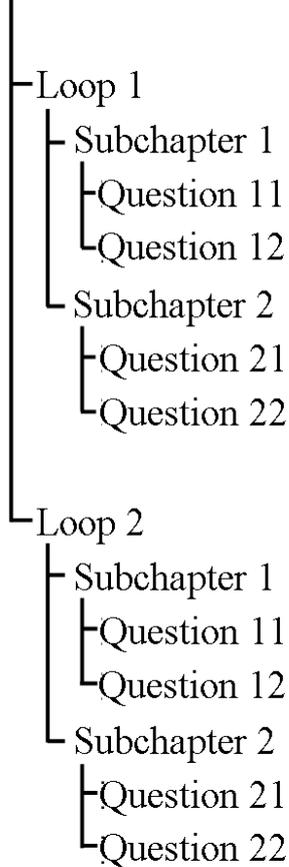




Hierarchy when using loops:



Loop

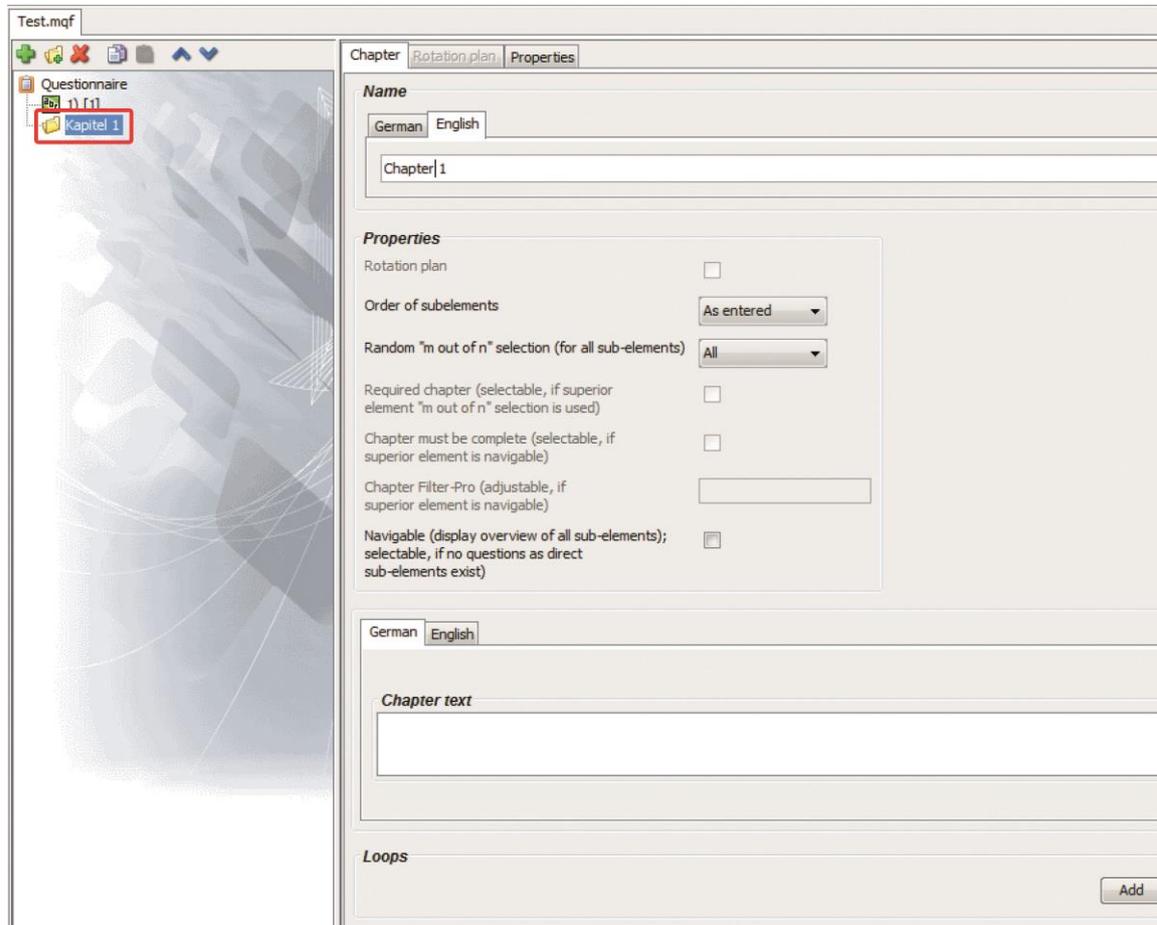


4.2 Chapters

4.2.1 Create

1. In the **Questionnaire elements**, click on the question or the chapter after which you would like to create a chapter.
2. Click on **Question > Add chapter** or click on  in the toolbar.

A new chapter will be added.



4.2.2 Define properties

In the element settings of the QuestEditor you can define individual properties for every chapter, e.g., with regard to the order in which the sub-elements (questions and chapters) are asked.

The screenshot shows the QuestEditor interface. At the top, under the 'Name' section, there are two tabs: 'German' and 'English'. Below the tabs is a text input field containing 'Chapter|1'. Below the 'Name' section is the 'Properties' section, which contains several settings:

- Rotation plan:
- Order of subelements: A dropdown menu set to 'As entered'.
- Random "m out of n" selection (for all sub-elements): A dropdown menu set to 'All'.
- Required chapter (selectable, if superior element "m out of n" selection is used):
- Chapter must be complete (selectable, if superior element is navigable):
- Chapter Filter-Pro (adjustable, if superior element is navigable): An empty text input field.
- Navigable (display overview of all sub-elements); selectable, if no questions as direct sub-elements exist:

4.2.2.1 Name

The QuestEditor automatically issues a name for every created chapter. In order for you to identify your chapters better, you have the possibility to award an own unique name.

4.2.2.2 Rotation plan

Herewith you can create a rotation plan with which you can vary the order of the sub-elements of a chapter or a loop (→ See also Page 95 for creating a rotation plan).

4.2.2.3 Order of the sub-elements

Here you can select in which order the sub-elements of a chapter or a loop should be asked in a survey.

- **rotating**
The sub-elements are asked one after the other. However, the selection of the start element depends on the number of surveys on the mQuest Client.
- **as entered**
The sub-elements will be asked as you have entered them.
- **random**
The sub-elements are asked in random order.

! With this setting the differentiation between chapter and loop is decisive. The sub-elements of a loop are always the loop cycles, while the sub-elements of a chapter can either be questions or sub-chapters.

! When creating Filters or Branching for questions within a chapter with **random** and **rotating** sub-elements, please note that the answers used in the conditions or jump targets should always refer to questions outside of the same chapter. Otherwise it might happen that a question whose answers shall be included, will be asked after the question with the Filter or the Branching.

4.2.2.4 Random “m out of n”-selection (for all sub-elements)

- **all**
All sub-elements are asked.
- **defined number of sub-elements**
Only a certain number of randomly selected sub-elements are asked.

If, for example, during a survey about automobiles, 3 chapters with different main subject focus (entire exterior, exterior details, interior) should be asked, but the survey duration would be too long with all 3 chapters, you can define that in every survey only two chapters will randomly be selected.

! With this setting the differentiation between chapter and loop is decisive. The sub-elements of a loop are always the loop cycles, while the sub-elements of a chapter can either be questions or sub-chapters.

4.2.2.5 Required chapter (selectable if superior element “m out of n”-selection is used)

If you have defined **random “m out of n”-selection a certain number of sub-elements** for a chapter or a loop cycle, you can define the single sub-elements as a required chapter or required question. A required chapter or a required question is always asked in a survey. The selection of the other asked sub-elements will be random.

Example In a survey about automobiles, only 2 of 3 randomly chosen chapters shall be executed. If one of these chapters is important, you can define it as a required chapter. Consequently, this chapter will be executed in every survey.

! A chapter or a question can only be defined as a required chapter/required question if for the superior chapter a random “m out of n” selection is activated.

DEFINING REQUIRED QUESTION:

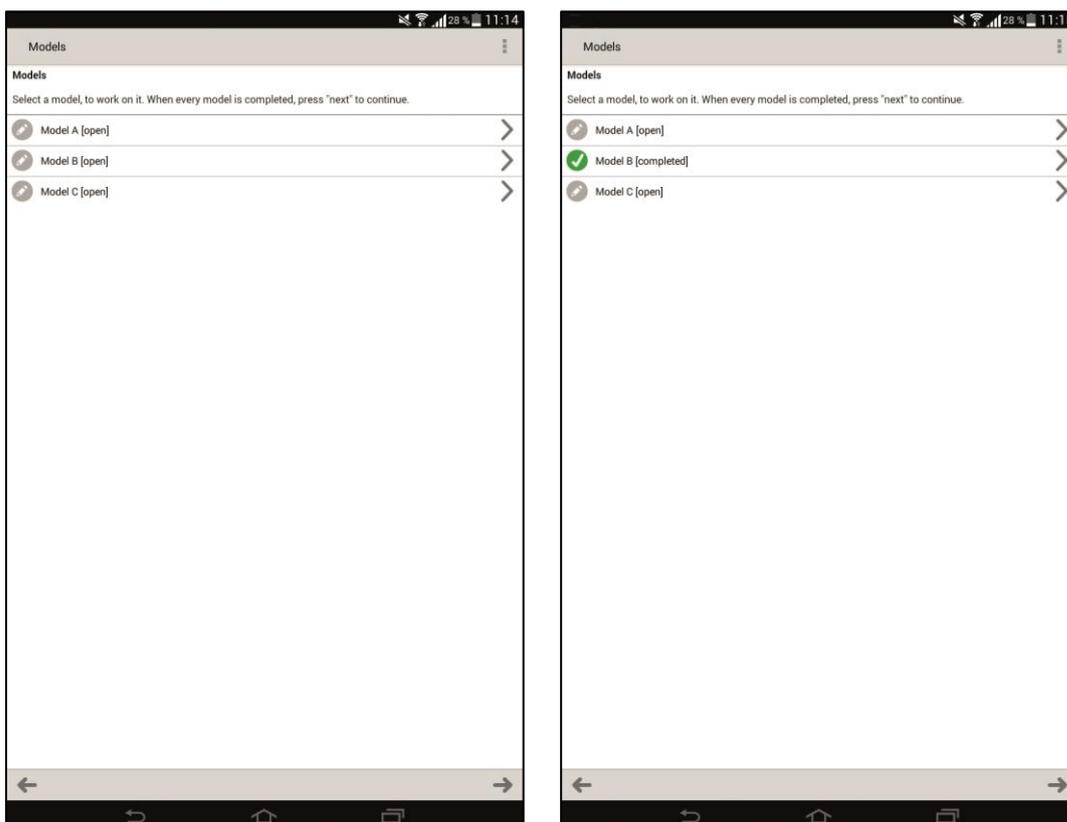
To define a subordinate question as a required question, conduct the defining at another location in the QuestEditor.

1. Click on the desired question in the **Questionnaire elements**.
2. Click on the tab **Details** in the **Element settings**.
3. Activate the option **Required question (superior “m out of n”)**.

The screenshot shows the 'Properties' tab in QuestEditor. The 'Required question (superior "m out of n")' checkbox is checked and highlighted with a red box. Other options include 'QuickClick', '*-Input', 'Required answer', and 'Open-ended text allowed'. The 'Order' is set to 'As entered', 'Question type variant' is 'Horizontal list', and 'Auto-completion list' is 'No auto-completi...'. The 'Min. answers', 'Max. answers', and 'Editable result fields' are set to 1, 1, and 1 respectively.

4.2.2.6 Navigable* (Display overview of all sub-elements; selectable, if no questions exist as direct sub-elements)

If you would like to make a chapter or a loop navigable, a chapter overview will be displayed for you while you are surveying on the mQuest Client. That means that the direct sub-elements of the chapter (sub-chapters) or the loop (loop cycles) are displayed for selection and you can determine the order of sub-elements yourself. The sub-elements which have already been completely asked are marked with a **green checkmark**.



The option **Navigable** is an advantage if, for example, in several surveys conducted in parallel, three areas of the same automobile model should be evaluated. In order to avoid waiting periods in each area, the interviewers can select the area which is available themselves.

→ To change to the last question before the navigable chapter, click on **Back**-arrow in the chapter overview.

! A chapter or a loop can only be made navigable if the following conditions are fulfilled:

- no questions are on the direct subordinate level
- there are no jumps (Filter, Branching, Filter Pro or Validation) into the chapter or loop or out of the chapter or loop
- there are no references (e.g. formulas and conditions) from outside of the chapter or loop to a question inside the chapter or loop

! If a sub-element of a navigable chapter (sub-chapter) or a navigable loop (loop cycle) has been already finished and you ask it once again, you will receive a warning message. If it has to be edited again, the sub-element has to be completed to the end in order for it to be finished.

! **ABORT CHAPTER**

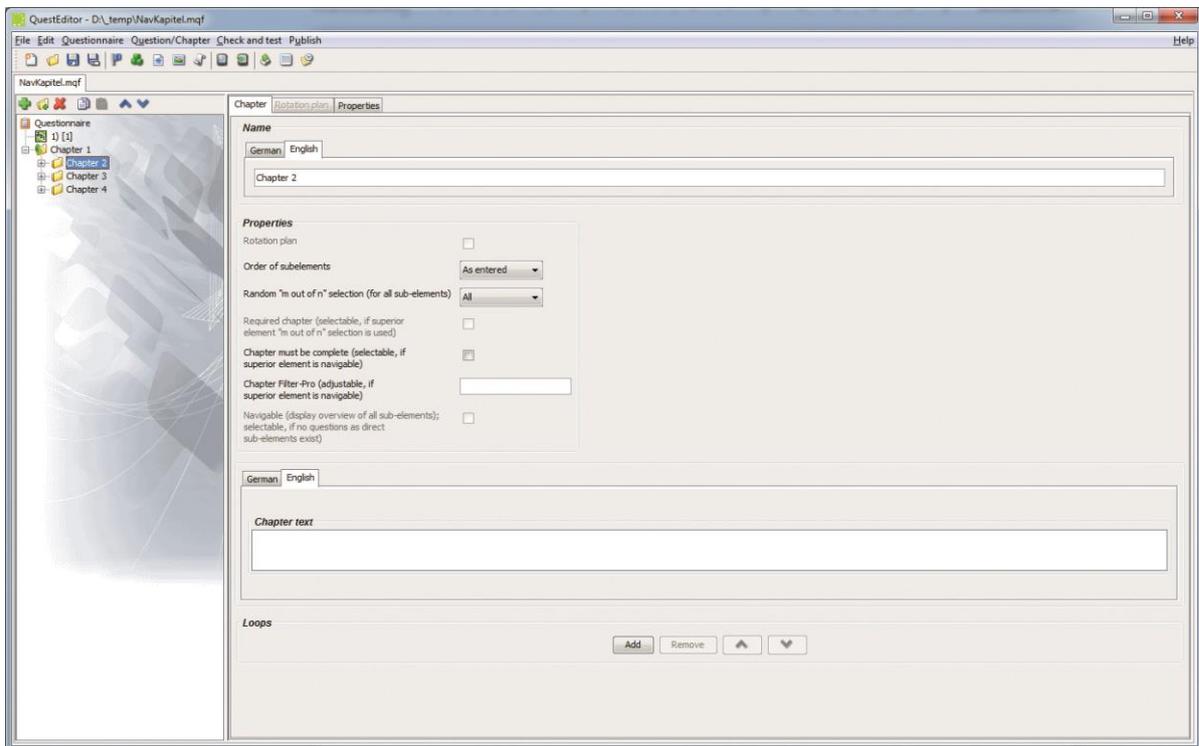
→ Click on the symbol  and confirm the warning message.

The answers given up to this point will be preserved. You can continue the aborted chapter later from the same point.

! With this setting the differentiation between chapter and loop is decisive. The sub-elements of a loop are always the loop cycles, while the sub-elements of a chapter can either be questions or sub-chapters.

4.2.2.7 Filtering chapters as sub-elements of a navigable chapter

If you have defined several chapters as sub-elements of a navigable chapter, then you can filter them out, if needed.

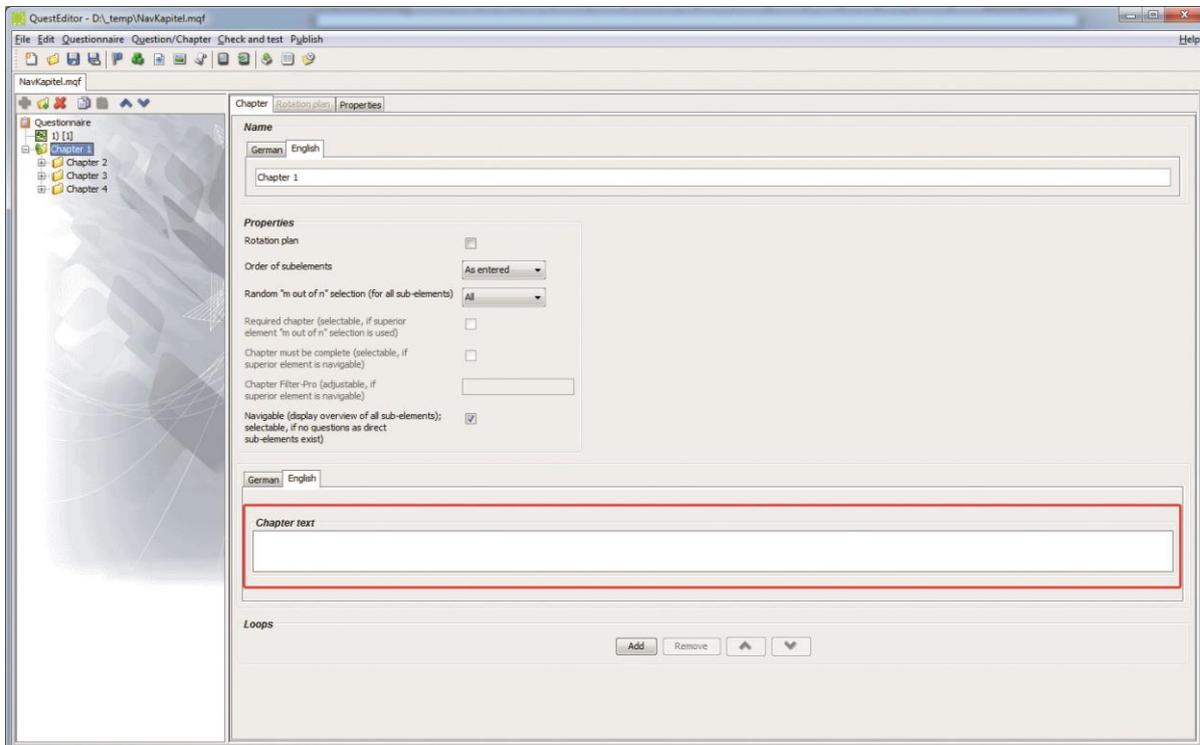


If the superior element is a chapter and this chapter is navigable, then the field **Chapter Filter-Pro (adjustable, if superior element is navigable)** is activated automatically.

- ! The formulas and conditions for filtering the selected chapter work the same way as they do for the tab **Filter Pro** of a question (→ See also Page 75). A difference is, however, that no “go to”-target has to be defined when filtering a chapter. The filtered chapter is not available in the chapter overview on the mQuest Client when the entered condition is evaluated to false.

4.2.2.8 Chapter text

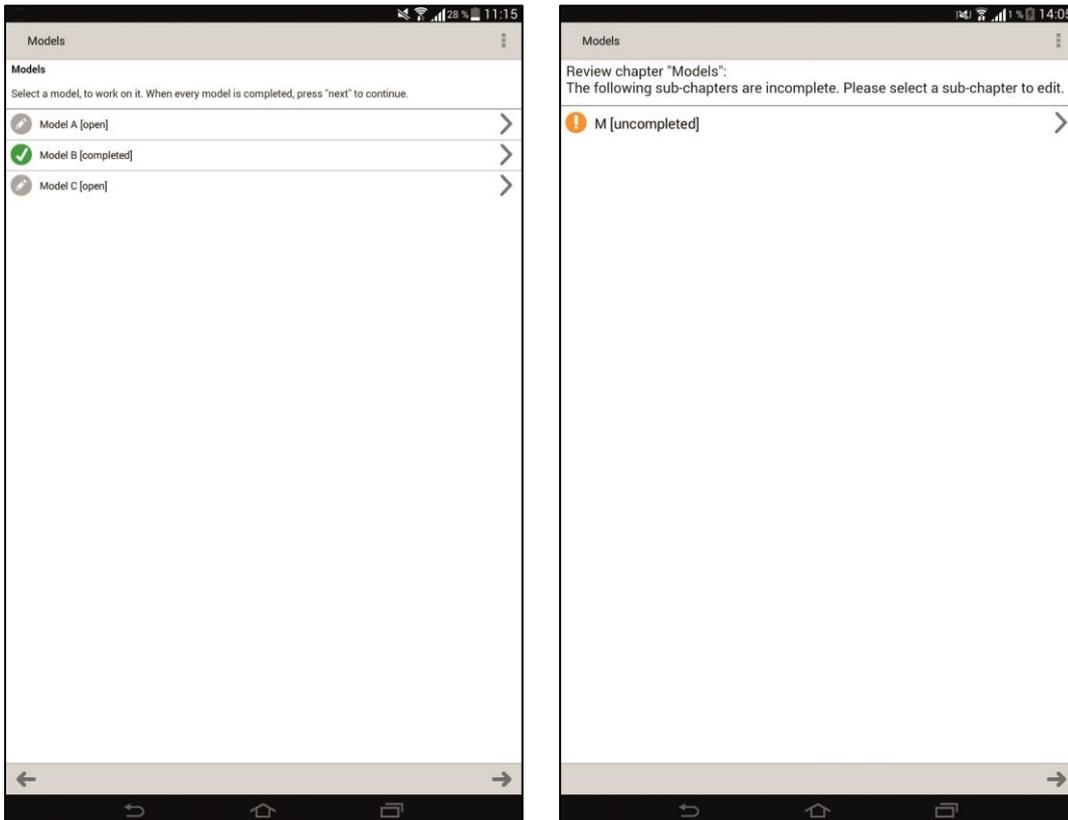
In the chapter text you can determine the title that is displayed on the mQuest Client during the chapter overview. If you leave this field empty, the default text of the chapter overview is displayed.



You can enter the chapter text in all languages that are available in the questionnaire.

4.2.2.9 Chapter must be complete (selectable, if superior element is navigable)

When you have defined **Navigable** for a superior element (chapter or loop cycle), the order of the subordinate chapters on the mQuest Client can be determined and selected. As a result, subordinate chapters can be skipped and the chapter overview can be quitted without having asked all sub-elements. In this case, if you have activated **Chapter must be complete** for a subordinate chapter, then the chapter will be checked for completeness upon quitting the chapter overview. If the chapter has not been completely asked, the subordinate chapter will be marked as incomplete in the chapter overview. It can be decided whether the incomplete chapters should be ignored or should still be worked on.



! A chapter can only be defined as **must be complete**, when the superior chapter or the superior loop flow is navigable.

4.2.3 Move

1. Click on the desired chapter in the **Questionnaire elements**.
2. Click on **Question > Move Question/Chapter up** or on **Question > Move Question / Chapter down** or in the toolbar on the suitable symbols  or .

4.2.4 Copy and paste



When copying and pasting the chapters are copied and pasted with all their sub-elements.

COPY CHAPTER:

1. Click on the desired chapter in the **Questionnaire elements**.
2. Click on **Question > Copy Question/Chapter** or in the toolbar on .

The chapter will be copied and can be pasted in another questionnaire.

PASTE CHAPTER:

1. In the **Questionnaire elements**, **click** on the desired position where you would like to paste a chapter.
2. Click on **Question > Paste Question /Chapter** or in the toolbar on .

The copied chapter will be pasted.



When a chapter is pasted it will be checked whether everything was pasted successfully. If restrictions exist, a suitable tip will follow.



Principally, all references of a chapter are copied. When pasting, a check will follow to verify if the referenced target is still valid. If this is not the case, invalid references will be deleted.

If there are references within a chapter that you would like to paste, these will be kept.

If references exist to the **outside** of the chapter, it is checked during pasting whether the original reference targets are still valid. If this is not the case, the invalid references will be deleted.

This concerns the following references:

- Questions
- Auto-completion lists
- Images
- Global variables
- Loop cycles
- Languages
- Included answers
- Additional categories.

! If the chapter you would like to paste contains languages which are not defined in the target questionnaire, these will be discarded when pasted.

In the opposite situation, the languages of the target questionnaire will be added. Texts will be blank for the added language.

! If there is a question with the option **Include answers** in the chapter to be pasted, but the source question does not exist in the target questionnaire, an empty answer is pasted instead.

! If there are loop cycles in the chapter to be pasted, you cannot add it beneath another loop.

Loops may not include subordinate loops.

4.2.5 Delete

1. In the **Questionnaire elements**, **click** on the chapter you would like to delete.
2. Click on **Question > Delete Question/Chapter** or in the toolbar on .

! The deletion of a chapter is **not** possible if there are existing references from outside the chapter to questions inside the chapter.

The deletion of a chapter is also **not** possible if no further questions would remain in the questionnaire after deleting the chapter.

4.3 Loops

Loops are an extended form of a chapter. A chapter becomes a loop when you add loop cycles. The use of loops makes sense if you would like to use the same questions for several objects. You are then able to create the questions for the objects only once and apply those several times in order to avoid redundant questionnaire sections. Through loop cycles you can define for which objects the questions should be asked.

Example For example, 4 vehicles from different manufacturers should be evaluated (Model A, B, C and D). The questions are the same for all vehicles and are defined only once and then asked by means of a loop with one loop cycle for every vehicle. In addition, you can define that during every survey, for example, only 3 of the 4 vehicles are randomly asked, Model D is always asked, and certain questions which only apply to Model D are asked.

4.3.1 Create

1. In the **Questionnaire elements**, click on the chapter which you would like to convert into a loop.
2. Click in the **Element settings** on **Add / Remove**.

A loop cycle will be added and the chapter will be converted into a loop. The options for loop cycles will be displayed.

The screenshot shows the QuestEditor interface with the 'Properties' panel open for a chapter. The 'Loops' section at the bottom of the panel contains a table with the following data:

ID	Variable name prefix	Order of subelements	Random 'm out of n' selection (for all sub-elements)	Required loop (selectable, if loop 'm from n' selection is used)	Loop must be complete (selectable, if loop is navigable)	Navigable (display overview of all sub-elements); selectable, if no questions as direct sub-elements exist)	German	English
71		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	1

4.3.2 Defining properties

For the properties of loops it must be differentiated between the loops and their loop cycles. You have the possibility to carry out changes to the preferences for the loop itself (→ See also Page 95) or for its loop cycles.

In the **Element settings** in the area **Loop cycles** you can define the options for every loop cycle individually.

Chapter	Rotation plan	Properties			
Rotation 1		Rotation 2	Rotation 3	Rotation 4	Rotation 5
question 1	▼	question 2	▼	question 3	▼
question 2	▼	question 3	▼	question 4	▼
question 3	▼	question 4	▼	Loop 1	▼
question 4	▼	Loop 1	▼	question 1	▼
Loop 1	▼	question 1	▼	question 2	▼
		question 2	▼	question 3	▼
				question 4	▼

4.3.2.1 ID

The ID will automatically be issued by the QuestEditor and cannot be changed. It is used for referencing when using formulas (→ See also Page 107).

4.3.2.2 Variable name prefix

The variable name prefix is used for the later identification of the loop cycle in the results. Together with the variable name of the subordinate question a unique variable name is composed (→ See also Page 109).

4.3.2.3 Order of sub-elements

Here you can select in which order the sub-elements of a loop cycle should be asked in a survey.

- **rotating**
The sub-elements will be asked one after the other. However, the selection of the start element depends on the number of surveys on the mQuest Client.
- **as entered**
The sub-elements will be asked as you have entered them.
- **random**
The sub-elements will be asked in random order.

! These setting possibilities refer to the sub-elements of a loop cycle. That means that you determine the order of the subordinate questions or chapters.

4.3.2.4 Random “m out of n”-selection (for all sub-elements)

If this option is defined for a loop cycle, then a random selection of the sub-elements of the loop cycle will be asked in a survey.

- **all**
All sub-elements will be asked.
- **definite number of sub-elements**
Only a definite number of selected sub-elements will be asked.

! These setting possibilities refer to the sub-elements of a loop cycle. That means that you determine the order of the subordinate questions or chapters.

4.3.2.5 Required loop cycle (selectable, if loop “m out of n”-selection is used)

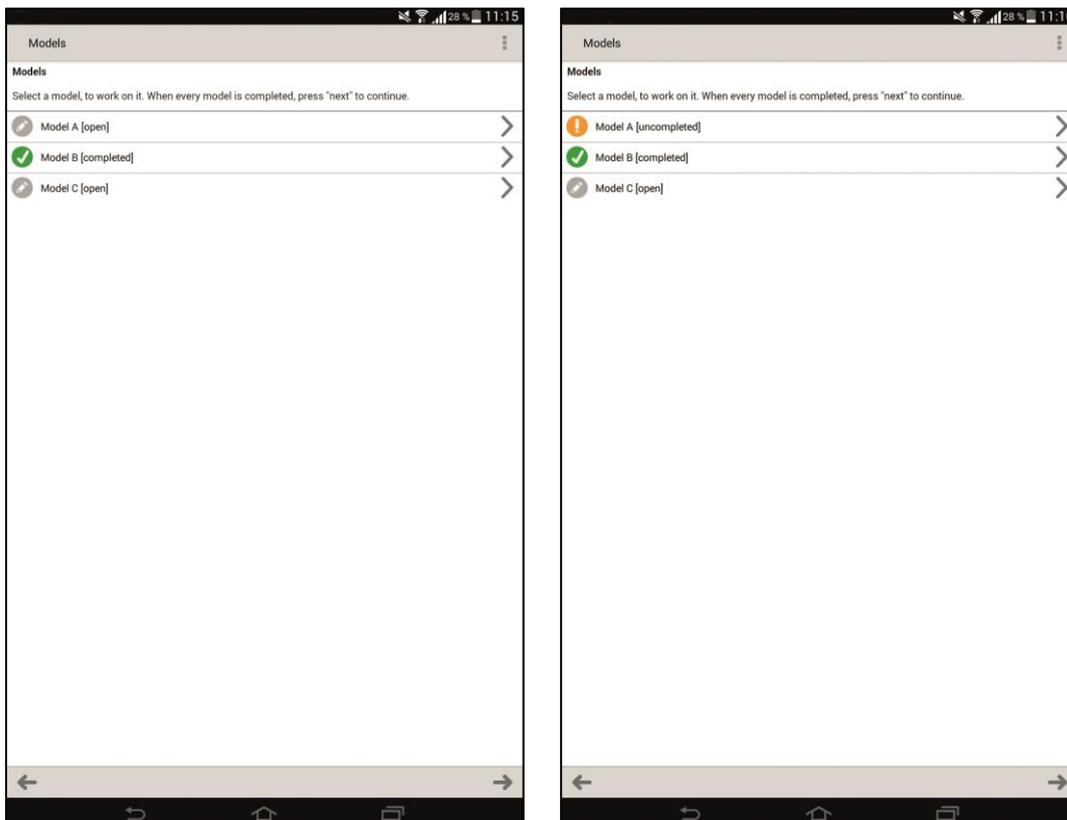
If you have defined for **random “m out of n” -selection** a **definite number of sub-elements** for a loop, you can set up a loop cycle as a required loop cycle. A required loop cycle is always asked in a survey. The selection of the other asked loop cycles is random.

Example If 4 different vehicle models should be evaluated, but the survey duration would be too long with all 4 models (4 loop cycles), you can define that in every survey, e.g., only 3 models (3 loop cycles) are randomly selected. If the evaluation of a particular model is especially important, you can set it up as a required loop cycle.

! With this setting the differentiation between chapter and loop is decisive. The sub-elements of a loop are always the loop cycles, whereas the sub-elements of a chapter can either be questions or sub-chapters.

4.3.2.6 Navigable (Display overview of all sub-elements; selectable, if no questions as direct sub-elements exist)

If you make a loop cycle navigable, a chapter overview will be displayed for you during a survey on the mQuest Client. That means that the direct sub-elements of the loop cycle (chapters) are displayed for selection and you can determine the order yourself. The sub-elements which were already asked are marked with a green checkmark and the affix **[completed]**.





In order to make a loop cycle navigable, questions are not allowed as direct sub-elements.

4.3.2.7 Loop cycle must be complete (selectable, if loop is navigable)

If you have defined **Navigable** for a loop, the order of the subordinate loop cycles on the mQuest Client can be determined. Due to that, a subordinate loop cycle can be quitted and the chapter overview can be left without having to ask all sub-elements. If in this case you have activated **Loop cycle must be complete** for a subordinate loop cycle, the loop cycles are checked for completeness upon leaving the chapter overview. If there are incomplete chapters, these are marked as incomplete. You can decide whether you will ignore the incomplete loop cycle or still work on it in order to complete it.



A chapter or a loop cycle can only be defined as **must be complete**, if the superior chapter or the superior loop cycle is navigable.

4.3.2.8 Description

In this column, enter the description of the loop cycle. This description can be displayed in the question or answer texts by the text variable \$L. For every language of your questionnaire a column is displayed. The variable \$L and its usage are further specified in the following chapter.

ID	Variable name prefix	Order of subelements	Random "m out of n" selection (for all sub-elements)	Required loop (selectable, if loop "m from n" selection is used)	Loop must be complete (selectable, if loop is navigable)	Navigable (display overview of all sub-elements); selectable, if no questions as direct sub-elements exist)	German	English
7A		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Model A	Model A
10B		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Model B	Model B
11C		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Model C	Model C
12D		As entered	All	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Model C	Model D

4.3.3 Formulas and variables for loops

4.3.3.1 Text variable \$L – Display description of the current loop cycle

Syntax: \$L

Here you display the description of the current loop cycle and integrate it into a text.

In the following example \$L displays the description of the current loop cycle in a question text:

ID	Variable name prefix	Order of subelements	Random "m out of n" selection (for all sub-elements)	Required loop (selectable, if loop "m from n" selection is used)	Loop must be complete (selectable, if loop is navigable)	Navigable (display overview of all sub-elements); selectable, if no questions as direct sub-elements exist)	German	English
7A		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Model A	Model A
10B		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Model B	Model B
11C		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Model C	Model C
12D		As entered	All	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Model C	Model D

German English

Question title

Activate **\$L**

Question

How do you like the external appearance of **"\$L"** in general?

mQuest Survey

Model A: Do you like the external appearance of **"Model A"** in general?

I liked it very much

I liked it

I neither liked or disliked it

I didn't like it

I didn't like it at all

4.3.3.2 Value variable L

Syntax: L<Loop cycle ID>

Here you are able to check, with the use of a formula, which loop cycle is currently asked. **<Loop cycle ID>** stands for the unique ID of a loop cycle. The formula variable L returns the value 1 if the loop cycle with the suitable ID is currently asked. Otherwise the value is 0.

In the following example a question is asked only for model A, by defining a formula with the suitable ID of the loop cycle as a condition in the Filter Pro of the question:

ID	Variable name prefix	Order of subelements	Random "n out of n" selection (for all sub-elements)	Required loop (selectable, if loop "m" from "n" selection is used)	Loop must be complete (selectable, if loop is navigable)	Navigable (display overview of all sub-elements); selectable, if no questions as direct sub-elements exist)	German	English
7A		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Model A	Model A
10B		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Model B	Model B
11C		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Model C	Model C
12		As entered	All	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Model C	Model D

Question Details... Validation Additional categories Filter Filter Pro Branching Navigation Help Properties

Condition If not fulfilled go to

4.3.3.3 Value variable Q

Syntax: L<Loop cycle ID>Q<Question number> or L<Loop cycle ID>Q<Question Number>.<Answer number>

Herewith you are able to refer to a question or an answer which is within a loop. L<Loop cycle ID> stands for the unique ID of a loop cycle.

ID	Variable name prefix	Order of subelements	Random "m out of n" selection (for all sub-elements)	Required loop (selectable, if loop "m from n" selection is used)	Loop must be complete (selectable, if loop is navigable)	Navigable (display overview of all sub-elements); selectable, if no questions as direct sub-elements exist	German	English
7A		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Model A	Model A
10B		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Model B	Model B
11C		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Model C	Model C
12		As entered	All	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Model C	Model D

Question	Details...	Validation	Additional categories	Filter	Filter Pro	Branching	Navigation	Help	Properties
Condition									If not fulfilled go to
.7Q4 >= 12									Skip

4.3.4 Delete

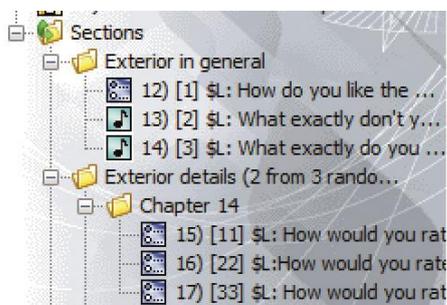
1. In the **Element settings** for loop cycles, click on the loop cycle which you would like to delete.
2. Click on **Remove**.
3. To convert a loop back into a chapter again, repeat steps 1 and 2 until all loop cycles are removed.

The loop will be converted into a chapter. The options for loop cycles will be hidden.

4.3.5 Results of loops

The sub-elements of the loop will be run through once per loop cycle. Even though the questions exist only once in the questionnaire, they are used several times and their results are stored separately.

ID	Variable name prefix	Order of subelements	Random "m out of n" selection (for all sub-elements)	Required loop (selectable, if loop "m from n" selection is used)	Loop must be complete (selectable, if loop is navigable)	Navigable (display overview of all sub-elements); selectable, if no questions as direct sub-elements exist	German	English
7A		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Model A	Model A
10B		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Model B	Model B
11C		As entered	All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Model C	Model C
12D		As entered	All	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Model C	Model D



The answers to the questions of a loop are saved together with the other answers of a survey in **one** row in the results. The loop cycles of a loop are filed one after the other. To clearly identify a question within a loop, the variable name is comprised of the variable name prefix of the loop cycle and the variable name of the question, e.g. A_Exterieur and B_Exterieur in the illustration.

A_Exterieur	A_ExterieurDislikes	A_ExterieurDislikes_E1	A_ExterieurLikes	A_ExterieurLikes_E1	A_Headlights	A_Cooler	A_Fog	A_Steerin...	A_Navigat...	B_Exterieur	B_Ex
1						3	4	2	3	2	
4						2	3	3	4	1	
2						1	3	4	2	4	

4.4 Rotation plan

Rotation plans are another possibility to vary the order of the survey. They can be configured for chapters, questions and loops.

With this setting the differentiation between chapter and loop is decisive. The sub-elements of a loop are always the loop cycles, while the sub-elements of a chapter can either be questions or sub-chapters.

- **Rotation plan for questions**
Refers to the directly subordinate questions of a chapter

A rotation plan for questions of a chapter is only possible if the chapter is solely made up of questions.

With loops it is not possible to create a rotation plan for subordinate questions.

- **Rotation plan for chapter**
Refers to the directly subordinate chapters of a chapter
- **Rotation plan for loops**
Refers to the directly subordinate loop cycles

4.4.1 Create

1. In the **Questionnaire elements**, click on the chapter or the loop for whose sub-elements you would like to create a rotation plan.
2. Activate the option field **Rotation plan** in the **Element settings**.
The second tab Rotation plan will be activated and a standard rotation plan will be generated.

The screenshot shows the 'Rotation plan' configuration window. It has two tabs: 'Chapter' and 'Rotation plan'. The 'Rotation plan' tab is active. Under 'Name', there is a text field containing 'English (en)' and a larger text field containing 'Chapter 1'. Under 'Properties', there is a checkbox for 'Rotation plan' which is checked. Below it, 'Order of subelements' is set to 'as entered' and 'Random "m out of n" selection (for all sub-elements)' is set to 'all'.

3. Open the tab **Rotation plan** and undertake the individual settings for the rotation plan.

Chapter	Rotation plan	Properties				
Rotation 1			Rotation 2	Rotation 3	Rotation 4	Rotation 5
question 1	▼		question 2	question 3	question 4	Loop 1
question 2	▼		question 3	question 4	Loop 1	question 1
question 3	▼		question 4	Loop 1	question 1	question 2
question 4	▼		Loop 1	question 1	question 2	question 3
Loop 1	▼		question 1	question 2	question 3	question 4

i If you create a rotation plan, a standard rotation plan will automatically be generated. That means that the number of the generated rotations corresponds to the number of the existing sub-elements.

! When you create a rotation plan, the characteristics of the setting possibilities **Order of the sub-elements** and **random “m out of n”-selection (for all sub-elements)** will be deactivated.

4.4.2 Defining the order of the rotation plan



With the help of the drop-down menu you can define the order of the rotation plan (→ See selection a in Ill. on Page 112).

- **Interview counter**

The rotations of a rotation plan are rotated depending on the number of surveys on the mQuest Client.

- **global manual**

For all rotation plans of a questionnaire which have the type **global manual**, the rotation is selected only once at the beginning of the survey and is then used for all.

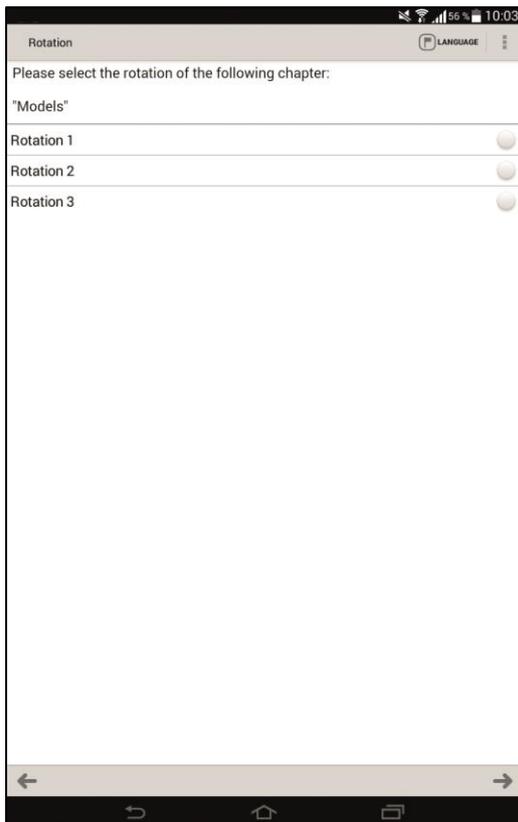


i You also have the possibility to use the pre-defined global variable **gvRotation** to record in the results which survey was carried out with which global manual rotation (→ See also Page 19).

! If the rotation type **global manual** is defined for several rotation plans and they have a different number of rotations, then the maximum number of rotations will be available for selection. If for a rotation plan which has only 3 rotations, the 4th was selected, then it will be wrapped and the first one will be used.

- **manual**

At the beginning of a survey the rotation for every rotation plan of the type **manual** will individually be selected.



- **random**

In every survey a rotation will be randomly selected.

4.4.3 Editing

With the help of a drop-down menu (→See selection **b** in Ill. on Page 112) you are able to edit a rotation.

4.4.4 Add a rotation

→ Click on **Add** (→See selection **c** in Ill. on Page 112) to add an additional rotation.

4.4.5 Remove a rotation

→ Click on **Remove** (→See selection **d** in Ill. on Page 112) to remove a selected rotation.

4.4.6 Delete

→ A rotation plan is deleted by deactivating the option field **Rotation plan** in the element settings of the chapter or the loop.

5 mQuest traffic*

mQuest traffic is used for traffic surveys. It is an extended version of mQuest with some additional features. The general functions, operation and navigation are identical to the standard version of the QuestEditor. Therefore the information from this user manual also applies to mQuest traffic. The differences and additional features of mQuest traffic will be described in this chapter.

5.1 Additional features in mQuest traffic

The following functions are additional features of mQuest traffic:

- Menu item “Traffic” for adding and removing stopover sequences
- Question type variant entered and exit at stopover for the question type text input
- Additional questionnaire properties
- Predefined Global Variables “nextStop” and “Ridenummer”
- Count module in the mQuest Client (adjustable by project properties)

5.2 Create mQuest traffic questionnaire

Creating questionnaires with mQuest traffic basically works the same as with the standard version of mQuest. (→ See chapter 3 and 4). Therefore only those steps which are only available in mQuest traffic will be explained at this point.

On creation of a new questionnaire, all required default values for Global Variables, project properties, and the question title are set automatically. The questionnaire type “Continuous” should not be changed; otherwise the ride would be finished after the first survey.

The questionnaire itself can be created as usual and without any further restrictions.

5.2.1 Create stopover sequence

With the help of the count module you can count the entering and exiting passengers at the stopovers of a route. The stopover sequences of a route are saved in the questionnaire. Base for this are 3 .csv-files:

- RideID-RouteID: Ride numbers (unique numeric values) and, if applicable, ride names are assigned to the corresponding routes.
- RouteID-StopIndex-StopID: The single routes are defined. The order and completeness of the stop indices will be verified during the import.
- StopID-StopName: This list serves for assigning the IDs from the list RouteID-StopIndex-StopID to the corresponding stop names.

Create RideID-RouteID

1. Open a **spreadsheet application** like **Excel**.
2. Enter the ride number and the routes in the spreadsheet. Enter the ride number in the first column and the route in the second column. Use a new row for every route.

For example:

A	B
1	IC 2216
2	ICE 219
3	EC 177
4	IC 2218

3. Save the file with the extension **.csv**.



If required, a ride name can be specified in addition to the ride number. This will then be entered in the second column while the route will be entered in the third column. Since Version 9.0 you can select a route also by its ride name in the ride start module.

Create RouteID-StopIndex-StopID

1. Open a **spreadsheet application** like **Excel**.
2. Enter the route, the order of the stops (stop index) and the stop ID in the spreadsheet. Use the first column for the route, the second column for the stop index and the third column for the stop ID. Use a new row for every route.

For example:

	A	B	C
1	EC 117	1	004
2	EC 117	2	005
3	EC 117	3	006
4	EC 117	4	007
5	EC 117	5	016
6	EC 117	6	017
7	EC 117	7	110
8	IC 2216	1	003
9	IC 2216	2	014
10	IC 2216	3	004
11	IC 2216	4	005
12	IC 2216	5	015

3. Save the file with the extension **.csv**.



Save the order of the stops for all routes in one file because only one file will be imported.

Create StopID-StopName

1. Open a **spreadsheet application** like **Excel**.
2. Enter the stop ID and the stop name in the spreadsheet. Use the first column for the stop ID and the second column for the stop name. Use a new row for every stop.

For example:

	A	B
1	001	Frankfurt HBf
2	002	Mannheim HBf
3	003	Karlsruhe HBf
4	004	Stuttgart HBf
5	005	Ulm HBf
6	006	Augsburg HBf
7	007	München HBf
8	008	Heidelberg HBf
9	011	Darmstadt

3. Save the file with the extension `.csv`.



You can also create these lists with a text editor. Separate the columns with semicolons and use a new line for every entry.

For example:

```
001;Frankfurt HBf
002;Mannheim HBf
003;Karlsruhe HBf
004;Stuttgart HBf
005;Ulm HBf
006;Augsburg HBf
007;München HBf
008;Heidelberg HBf
```

5.2.2 Manage stopover sequences

You need to import a stopover sequence before you can use it in a questionnaire. If you do not need an imported stopover sequence anymore, you can also delete it.

Add stopover sequence

1. Click **Traffic > Add stopover sequence**.
2. Select the list **RideID-RouteID** and click **Next**.
3. Select the list **RouteID-StopIndex-StopID** and click **Next**.
4. Select the list **StopID-StopName** and click **Finish**.

A notification informs you about the successful import of the stopover sequence.

Delete stopover sequence

1. Click **Traffic > Remove stopover sequence**.
A security notification appears.
2. Confirm the security notification.
You deleted all stopover sequences.



If you want to import changed stopover sequences to the questionnaire you can overwrite the previous stopover sequences. You do not have to delete these beforehand.

5.2.3 Define count categories

Count categories determine what categories of passengers will be counted. Default categories are 1st class, 2nd class, Bikes etc. and Miscellaneous. If required, you can customize the count categories so only the required or desired categories are available. Additionally you can determine what information will be collected for which category.

1. Select the questionnaire element **Questionnaire** in the left area in order to access the questionnaire data.
2. In the area **Textproperties**, **change** the values of the property **categories**, separate single values by a semicolon.
You have customized the count categories.

Configure count categories

You can determine what information will be collected for which category. This determination is configured via the project properties.

Such an entry could look like this:

Traffic_count_category_configuration_1=o;i;m

It consists of the following parts:

- traffic_count_category_configuration_1= : determines for which count category the configuration applies.
- o : determines that exiting passengers can be counted
- i : determines that entering passengers can be counted
- m : determines that the entire manning can be counted

If certain information shall not be collected an x will be set instead of the corresponding letter.



The order of the letters is important: First the exiting passengers (o or x), then the entering passengers (i or x) and at last the entire manning (m or x).

5.3 Create final survey

Final surveys are executed at the end of a ride.

Basically you create a final survey just like a normal questionnaire. The final survey does not need any stopover sequences.

For the correct presentation and execution of the questionnaire follow these steps:

1. Create a new questionnaire.
2. Set the questionnaire type to **Standard**, so the questionnaire is executed only once.
3. Create or change the questionnaire property **traffic_mode=** and set the value to **qning_standalone**, so only the questioning module is started.
4. Create or change the questionnaire property **questioning_user_start_enabled=** and set the value to **false**.

You have configured all required settings for a final survey. As the stopover will not change anymore you can also delete the default question title in the project settings.

5. Create the final survey as described in chapter 3 and 4 of the manual.
6. In the questionnaire the final survey belongs to, assign the name of the final survey to the questionnaire property **questioning_next_qnaire=**.

The final survey will now be executed after ending the questionnaire.

5.4 Exporting and interpreting count data

With the help of QuestAdmin you can export the count data as a .csv file in order to process it in other programs and to interpret the data.

1. Click **Result management > Export count data...**

The export window will open.

2. Select the project whose count data you want to export and click **Next**.

3. Select file name and location for the destination file and click **Finish**.

The export file will be saved with the specified name in the specified location as a .csv file.

You can process this file now in other applications or view it directly. The export file can be opened with a standard spreadsheet application like Excel.

You will find the following information in the export file:

- RideID: The ride number all other information in this row refers to
- SSID: Server-sided ID which helps preventing duplicates
- UniqueID: Unique ID of the project
- Questionnaire Name: Name of the project
- State: The current state of the project
- Questionnaire Version: Version number of the project
- Device ID: Unique device number
- Interviewer: Name of the user (if specified)
- Hst Idx: Position of the stopover in the route (stop index)
- Hst ID: Unique ID of the stopover
- Hst Name: the name of the stopover
- Hst Start: Begin of the counting for this stopover
- Hst End: End of the counting for this stopover
- In 1-5: Number of entering passengers in the different count categories
- Out 1-5: Number of exiting passengers in the different count categories
- Manning 1-5: Entire manning of the vehicle in the different count categories

5.5 Overview of additional questionnaire properties

These questionnaire properties are additional properties which are not available for the standard version. You will find an overview of all available questionnaire properties in chapter 3.6.10.

Property	Possible values	Description
traffic_mode=	default, countmodule_stan dalone, qnnning_standalone	Defines if it shall be possible to count, to interview or both with a questionnaire. The value for both is "default".
questioning_adopt_results_enabled=	true, false	Defines if result datasets may be duplicated or not.
traffic_search_ride_by_name_enabled=	true, false	Enables the entry of a ride name instead of a ride number when choosing the ride.

6 mQuest direct response

mQuest direct response is used for online surveys on mobile devices and in the desktop browser. Surveys with direct response have the following features:

- Surveys are executed online in a browser; i.e. a connection to the Internet has to be available.
- Surveys are optimized for being displayed on mobile devices (responsive design).

The features and functions of mQuest direct response are described in this chapter.

6.1 General features of mQuest direct response

mQuest direct response has the following general features:

- Optimized display for different mobile devices and desktops, depending on device and browser
- No app installation necessary

i Use short, concise question texts in order to avoid scrolling, especially for the display on mobile devices.

i The duration of the survey should last under 10, best under 7 minutes.

6.2 Functions of mQuest direct response

The following functions are available for mQuest direct response:

- **Single selection:** Vertical positioning of answer options, QuickClick, Order, Answer codes
- **Multiple selection:** Vertical positioning of answer options, Min. and Max. answers, Single answer, Required answer, Order, Answer codes
- **Text input:** Default value, QuickClick, Total number of characters, Characters
- **Numeric input:** Min. and Max. answers, Default value, QuickClick, Required answer, Total number of characters, decimal places, Scale slider, Slider min/max, Date, Time
- Automatic dropdown of the keyboard with **text input** and **numeric input**
- Keyboard layout depending on **text input** or **numeric input**
- **Ranking:** Min. and Max. answers, Required answer, QuickClick, Order
- **Message**
- **Media input:** Location
- Matrix
- Chapter
- Loops
- Filter
- Filter Pro
- Validation
- Branching
- Include answer
- Text variables
- Formula calculation
- Include images and graphics
- Question title
- Question-specific button-navigation texts
- Full HTML capability, limited HTML capability of further texts in the questionnaire
- Display of attached image attachments
- Questionnaire language selectable on first screen
- Quotas
- Display of survey progress
- Use of global CSS in order to style the question text globally. Use of special fonts for languages whose characters are not supported by the device

6.3 Unlock questionnaire

The process of making questionnaires available online with direct response deviates in some points from the standard process.

1. File the questionnaire in the QuestServer (→ See also Page 146).
2. Click on **Questionnaire management > Questionnaire Project Settings**.
A list of all available questionnaires is displayed.
3. Select the desired questionnaire and confirm with **Next**.
*The window **Questionnaire project settings** opens.*
4. Activate the option box **Available online**.
The lower part of the window can be edited.
5. Select whether multiple participation is permitted.
6. Click on **Create QR code**. As an alternative you can copy the URL of the questionnaire into the clipboard by clicking on **Copy to clipboard**.
7. Click on **Complete**.
Now you can use the QR code and the URL in order to access the questionnaire online.



You can edit the settings in the menu **Questionnaire > Questionnaire Project Settings** at any time.



All settings in the menu **Questionnaire Project Settings**, including QR code and URL, are saved for new questionnaire versions. You only have to file the new questionnaire version under the same name.

The QR code and the URL always refer to the current questionnaire version and do not have to be adapted when questionnaires are updated.

7 Test a questionnaire: mQuest Client Emulator

With the mQuest Client Emulator you can test your project questionnaire fast and comfortably on the PC, without the use of a mobile device.

7.1 Questionnaire-Test

STARTING THE MQUEST CLIENT EMULATOR:

The current questionnaire can be launched directly from the QuestEditor in the mQuest Client Emulator.

→ Click on  in the toolbar or on **Check and test > Questionnaire-Test**.

The mQuest Client Emulator will be started in a new window.

Alternatively, you can also launch the mQuest Client Emulator in the Windows start menu and carry out the entire process for the realization of a survey on the PC (file questionnaire with QuestAdmin on the QuestServer, load questionnaire with mQuest Client Emulator from the QuestServer, conduct the survey etc.).

Instead of the virtual keyboard on the mobile device, you use your normal keyboard on the PC.

! In the mQuest Client Emulator, answers cannot be recorded for **Media input** questions with the question types Audio, Video and Photo.

! Before the start of the survey the questionnaire should be completely tested with the mQuest Client on the mobile device.

i You can receive more detailed information on mQuest Client in the document **mQuest Client Manual**.

7.2 Questionnaire-Quick-Test

With the Questionnaire-Quick-Test you are able to directly “access” a question within your questionnaire in order to test the questionnaire from this question onwards.

If the question from which you want to test the questionnaire has references on previous questions, these reference questions will be asked before the accessed question. References can exist due to Filters, Filters Pro, Branching, Validations or Text variables.

STARTING QUESTIONNAIRE-QUICK-TEST:

1. Click in the **questionnaire elements** on the question you want to access.
The selected question will be marked in blue.
2. Click on  in the toolbar or on **Check and test > Questionnaire-Quick-Test**.
The mQuest Client Emulator will automatically start the Quick-Test.

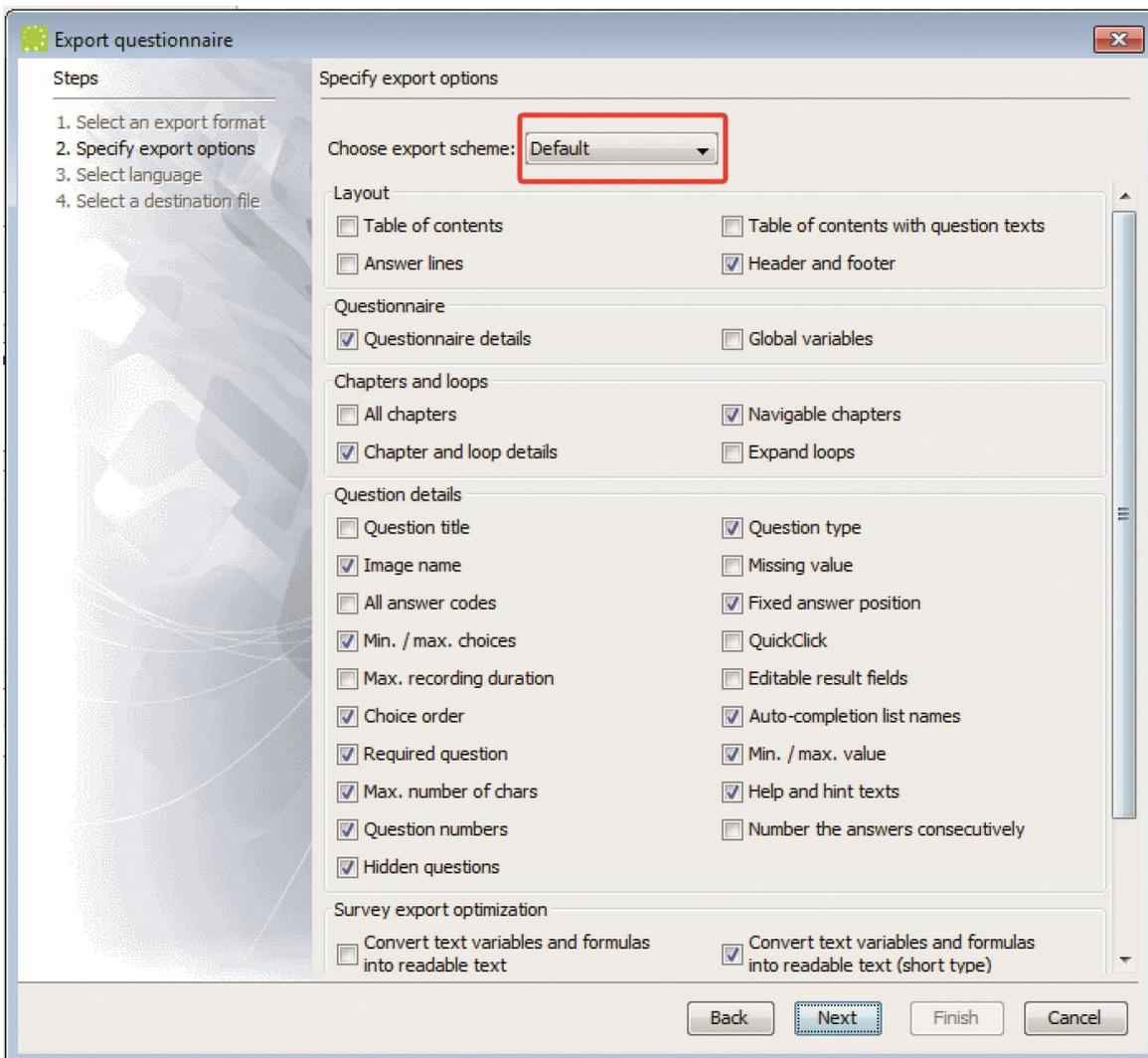
8 Exporting questionnaire: QuestEditor

You are able to export your questionnaires from the QuestEditor to a file at any time. Depending on the purpose of the export there are several file formats and export types.

8.1 Questionnaire export: Standard (RTF)

This export type exports the questionnaire as a Rich Text Format (RTF) file (e.g. for Microsoft Word).

1. Click on **File > Export**.
2. Click on **Questionnaire in Rich Text Format for Word (RTF)**.
3. Confirm with **Next**.
4. Select your preferred options in the following window by activating the corresponding check boxes. As an alternative you are able to choose one of the ready-made export schemes.



- **Layout**
Here you can adjust the layout of the export file, e.g. you are able to add footers or a table of contents.
- **Chapters and loops**
Here you choose which chapter and question details of the questionnaire will be displayed in the export file.

The function **Expand loops** displays every loop cycle including its name.
- **Question details**
Here you choose which question details of the questionnaire will be displayed in the export file.
- **Survey export optimization**
 - **Convert text variables and formulas into readable text**
Text variables and formulas which were used in Filters, Filters Pro, Validations and Branching will be converted into readable text.

Example In the 2nd question of your questionnaire you include the answer of the 1st question by using the text variable $\$T\{1\}$. When exporting the questionnaire with the function **Convert text variables and formulas into readable text** activated, the text variable $\$T\{1\}$ will be replaced by the text “Answer of question 1” in the 2nd question.

- **Convert text variables and formulas into readable text (short type)**
Unlike the function “Convert text variables and formulas into readable text” the text is shortened again.

Example In a question (Q3) you use a Filter Pro with the formula $Q1+Q2 \geq 4$. If the function **Convert text variables and formulas into readable text** is activated, the text “Ask question when question 1[a] + previous question greater or equal 4” will be displayed in the export file. With the function **Convert text variables and formulas into readable text (short type)** the text “Question 1[a] + previous question ≥ 4 ” will be displayed.

- **Simplify text variables and formulas**
Text variables and formulas which were used in Filters, Filters Pro, Validations and Branching will be simplified.

Example For a question within a loop, you used the Filter Pro to define the formula **L5 && Q3.1**, so that this question will only be asked if the interview is in the 5th loop cycle **and** a previous question 3 has been answered with answer 1. This means that the condition **L5** is already sufficient for the remaining loop cycles to not ask the question. The second condition **Q3.1** is only relevant for the 5th loop cycle. When exporting the questionnaire with the function **Simplify text variables and formulas**, the second condition will only be displayed if it is necessary to ask the question, thus in the 5th loop cycle. With the remaining loop cycles the text “Ask question, if 0” will be displayed. That means it will not be asked in these loop cycles.

(Hint: export with the function **Expand loops** activated.)

- **Remove and optimize questions**

Questions which are never asked (e.g. because of a Filter) will not be displayed in the export file.

Example Your questionnaire contains a chapter for which you defined multiple loop cycles. With the Filter Pro you defined for the first question A of this chapter that it will only be asked in the loop cycle 2. If you now export the questionnaire with the function **Remove and optimize questions** activated, the question A will be displayed only in the loop cycle 2.
(Hint: export with the function **Expand loops** activated.)

- **Do not repeat included answers**

Answers which are included from one question into another will not be repeated in the new question with the export.

Example Your questionnaire contains a question B. All answer possibilities of this question are included from the previous question A. When exporting the questionnaire with the function **Do not repeat included answers** activated, the text “All answers from question A” will be displayed instead of the answer possibilities at question B in the exported file. The included answers themselves will not be displayed and can only be found under question A.

5. Click on **Next**.
6. Select the desired language the questionnaire has been created for and confirm with **Next**.
7. Follow the further steps.

8.2 Questionnaire export: Overview (XLS)

This export type simply creates an overview of the questionnaire in the Excel file format (XLS).

1. Click on **File > Export**
2. Select **Questionnaire overview in Excel format (XLS)** in the following window and confirm with **Next**.

The window for the export settings will appear.

Similar as with the Standard export there are several options:

- **Chapter start and end**
Two additional lines will be displayed in the Excel table to illustrate the start and the end of a chapter.
- **Loop start and end**
Two additional lines will be displayed in the Excel table to illustrate the start and the end of a loop.
- **Expand loops**
Every single loop cycle including its name will be displayed.

3. Select your preferred export options and click on **Next**.
4. Select the desired language the questionnaire has been created for and confirm with **Next**.
5. Follow the further steps.

8.3 Questionnaire export: Translation (XLS)

This export can be used for the translation of the questionnaire into another language.

1. Click on **File > Export**
2. Select **Excel language text export (XLS)** in the following window and confirm with **Next**.
3. Follow the further steps

8.3.1 Layout of the XLS-file



All gray highlighted cells of the XLS file must not be changed.

In the upper area of the Excel table the questionnaire data is shown. This contains the **unique version number** (cell B2) as well as the **File name** (cell C1) and the description of the **Language** (in the example cell C2 and D2). In the lower area of the Excel table you will find all texts that were entered into the questionnaire.

	B	C	D
1	Questionnaire	supershop.mqf	
2		9 German (de)	English (en)
3	Name of questionnaire	Supershop	supershop
4	Description		

Beneath the general data of the questionnaire the added additional categories of the questionnaire are displayed (if existent).

6	Navigation		
7			
8	Additional categories	Keine Angabe	Don't know
9	Additional categories	Weiß nicht	Refused

In **Column B** you see to which type of questionnaire element the texts of the line belong to.

Furthermore, in the field **Question** of the **Column B** you can see the question number and the variable name of the question.

15	2_ Question [5]	Have you visited the new Supershop before?
16	Answer text	Yes
17	Answer text	No
18	Help	
19	Hint	

In the **Columns C** and the following, there are the language-dependent texts for the translation.

80	12. Question [20]		How would you pronounce the following brand name?
81	Help		QHealth
82	Hint		QHealth is an international successful pharmaceutical company. Some of their partners are...
83	Next Navigation		Done

All questions are displayed with the same pattern. Firstly, the question is shown and beneath it the respective answer possibilities. The rows for help and hint texts always exist, but are only filled out if you have used them and have entered a suitable text. If you have renamed navigation elements when creating the questionnaire, these will also be displayed here. After every single question with answers and other texts a blank space follows in the Excel table.

8.3.2 Editing Text in an XLS-file

When editing the text in the XLS file you should take note of the following points:

- Columns or rows are not allowed to be added or deleted.
- Only the intended translation cells may be edited (Column C and following).
- Cell formatting or text formatting is not allowed to be used.
- Line breaks in a cell must be realized with a correct line break: Key combination ALT-Return.
- If applicable, the text variables contained in the text have to be inserted unchanged to the suitable position in the translated text. e.g. \$L or \$T{..} or \$P{..}. With \$P{(Formula condition)->Text} the text contained within must be translated.
- Pay attention that references to the navigation elements in question texts are translated the same way as the navigation element itself (Line 7 and 8).

8.3.3 Importing questionnaire texts from an XLS-file

1. Click on **File > Import**.
2. Click on **Select import format** and select the format **Import Excel language texts (XLS)**. Confirm the selection with **Next** and follow the further steps.

! During the export, the **unique version number** of the questionnaire, which gets increased every time the questionnaire is saved, is written into the XLS file. When you re-import the XLS file into the questionnaire, the version number contained in the XLS file must correspond with that of the questionnaire. If this is not the case, a warning message follows and you can decide whether the import should be continued or not. If you continue the import, it is possible that the entire language column or single questionnaire elements cannot be assigned because of different Export-IDs from the XLS file, or it may come to unintentional text replacements, for example, the overwriting of in the meantime altered text in the questionnaire. If after the export of the XLS file questions/answer options were still added to the questionnaire, these are consequently not included in the XLS file.



If during the import for an Export-ID from an XLS file no suitable element is found in the questionnaire, mQuest will skip the concerning line in the XLS file. This can happen if changes were still carried out in the questionnaire after the export of the XLS file, e.g., questions/answer options were deleted or question types were changed.

8.4 Questionnaire export: Fixed Field ASCII (CSV)

This export type creates an overview of the Fixed Field ASCII column mapping (→ See also Page 26).

1. Click on **File > Export**.
2. Select **Fixed Field ASCII mapping (CSV)** in the following window and confirm with **Next**.
3. Select a **Separator** and follow the further steps.

9 QuestServer

In order to access the QuestServer with the QuestAdmin or the QuestEditor, the QuestServer must be started. If you test mQuest on your PC or if the QuestServer is running on your PC during a project, you need to start the QuestServer on your PC. If the QuestServer is running on another PC in your company, it must be started on that PC.

9.1 QuestServer preferences

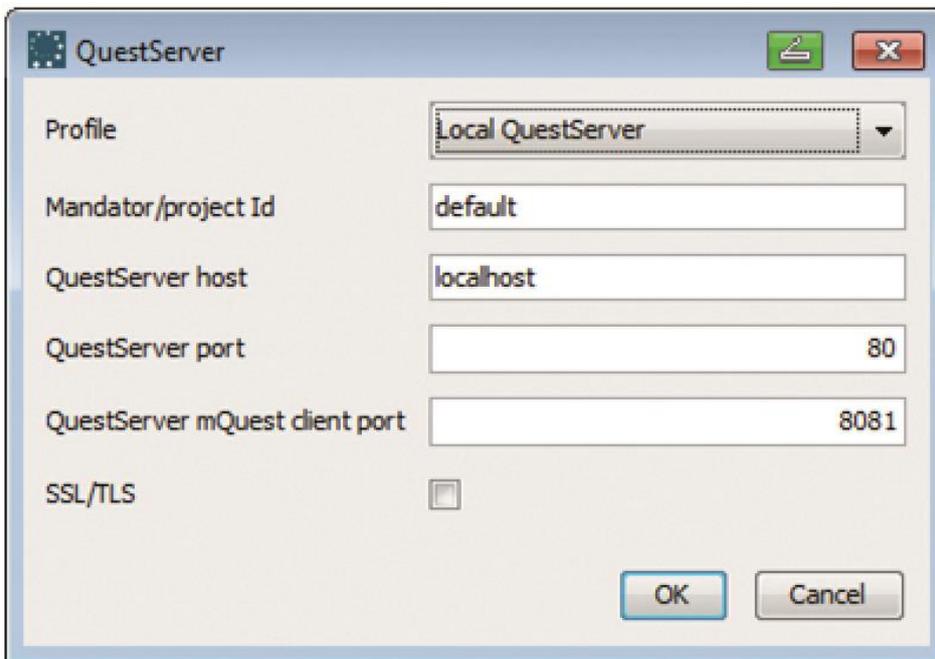
Before you can access the QuestServer with the QuestAdmin or the QuestEditor, you must adjust the preferences for the QuestServer. You can do this in the QuestEditor as well as in the QuestAdmin.

QuestEditor:

→ Click on **Publish > QuestServer**

QuestAdmin:

→ Click on **Preferences > QuestServer**



The image shows a dialog box titled "QuestServer" with a standard Windows-style title bar (minimize, maximize, close buttons). The dialog contains the following fields and controls:

- Profile:** A dropdown menu with "Local QuestServer" selected.
- Mandator/project Id:** A text input field containing "default".
- QuestServer host:** A text input field containing "localhost".
- QuestServer port:** A text input field containing "80".
- QuestServer mQuest client port:** A text input field containing "8081".
- SSL/TLS:** A checkbox that is currently unchecked.
- Buttons:** "OK" and "Cancel" buttons at the bottom right.

9.1.1 QuestServer Profiles



→ Please note that you will have to adjust the QuestServer preferences in the mQuest Client if you change the preferences here. More information about this can be found in the document **mQuest Client Manual**.

With the QuestServer Profiles you can use various default settings.

→ Please note that you have to select the profile in the mQuest Client according to the profile you selected in the QuestEditor or QuestAdmin. More information about this can be found in the document **mQuest Client Manual**.

- **Local QuestServer**

The QuestServer runs locally on your PC. This profile uses default values and is set as the default profile.

- **Manual**

Herewith you have the possibility to adjust the preferences individually.

- **my.mQuest Demo-Server**

This profile uses the demo server of the my.mQuest online portal with default values.



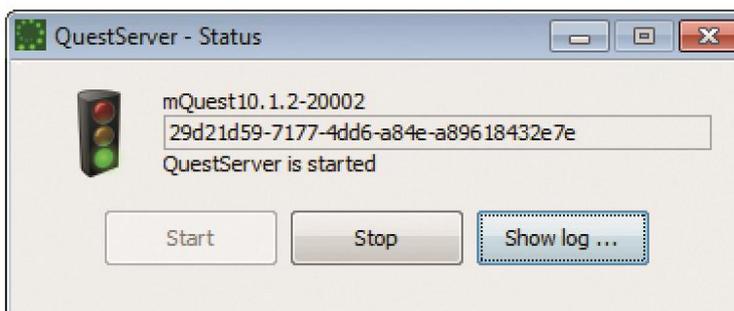
On my.mQuest you can test out mQuest without obligation. You can access the portal via **www.my.mQuest.eu**

9.2 Starting/Ending the QuestServer

With the **QuestServerPanel** you can use the QuestServer and track its protocol. The traffic light indicates the status of the QuestServer.

-  The QuestServer is inactive.
-  The QuestServer is currently starting up or shutting down.
-  The QuestServer is running.

In addition, the QuestServer displays the **version number** and in the field beneath the **QuestServer ID**.



i The QuestServer is also accessible via the traffic light symbol in the info area of your task bar. If the panel is minimized it is only accessible via this symbol. You can open the panel again by double-clicking the symbol. By right-clicking on the symbol you are able to use the QuestServer without opening the panel window.



STARTING THE QUESTSERVER:

1. Click on **Start > Program files > mQuest > QuestServer** or double-click on the corresponding program linkage on your desktop.

A new window for the QuestServerPanel will open up.

2. Click on **Start** in the **QuestServerPanel**

The traffic light will change its color. The QuestServer is running when the traffic light shows green.

! The QuestServer requires multiple available ports. Make sure that the required ports are not occupied by other applications or blocked by a firewall (→See also **mQuest Quickstart** chapter 8). Otherwise, problems when starting the QuestServer or communication problems with the QuestServer may occur.

If startup problems of mQuest occur, please refer to your system administrator.

! For questions or problems regarding the install directory or the startup of the QuestServer, please refer to your system administrator.

ENDING THE QUESTSERVER:

- Click on **Stop** in the **QuestServerPanel**.

The traffic light will change its color. The QuestServer is shut down when the traffic light shows red.

10 QuestAdmin overview

After you have created the questionnaire with QuestEditor, it must be filed on the QuestServer where it can be loaded to the mQuest Client. The filing of the questionnaire on the QuestServer or the managing of the results is done with the QuestAdmin. Alternatively you can also use the QuestEditor for filing the questionnaire in the QuestServer and for adjusting the QuestServer preferences.



In order to access the QuestServer with the QuestAdmin or the QuestEditor, the QuestServer must be started. (→ See also Page 133 for starting the QuestServer).

10.1 User interface

In the upper section of the user interface you will find the menu bar and the toolbar.

FILE:

- **Close**
Closes the current result view
-  **Exit**
Ends the QuestAdmin

QUESTIONNAIRE MANAGEMENT:

-  **File questionnaire on the QuestServer**
(→ See also Page 140)
-  **Questionnaire Project Settings**
Here you can select the project settings (**Live-/Test-Mode**, questionnaire online/offline available) for the questionnaire.
-  **Delete questionnaire and its results from the QuestServer**
- **Create backup**
- **Restore backup**



The questionnaire and its results are deleted on the QuestServer. No further data sets can be transferred from the mQuest Client to the QuestServer for this questionnaire.

TASK MANAGEMENT:

-  **Import tasks**
Imports tasks from an Excel file (→ See also Page 144).
-  **Export tasks**
Exports tasks to an Excel file (→ See also Page 144).

RESULT MANAGEMENT:

-  **Update current result view**
-  **Display results of the QuestServer**
(→ See also Page 155)
-  **Export current result view as...**
Exports the current result view to different file formats (→ See also Page 160 for the various export formats).
-  **Delete results of a questionnaire from the QuestServer**



The results of the questionnaire are deleted on the QuestServer.

-  **Generate random results**
Generates random results of a questionnaire. You can define the number of results as well as further settings (→ See also Page 148).
-  **Manage Quotas**
Here you can view and edit the current quota values of the questionnaire.

PREFERENCES:

-  **QuestServer**
Here you enter the properties for your QuestServer (→ See also Page 133).
-  **Memory card import directory**
Here you determine the directory from which the mQuest Client result files are imported into the QuestServer.
-  **Language settings**
Here you can choose the application language for QuestAdmin.
- **Text input editable**
Here you can choose whether the results can be modified manually.

LICENSE:

(→ See also Page 141)

-  **Unlock QuestServer / mandator**
Activates a license.
-  **Account ticket information**
Displays information on the active license.
-  **Synchronize license data**
Synchronizes the license data.

LOGIN / LOGOUT:

(→ See also Page 138)

-  **Login**
Here you login as a user on the QuestServer.
-  **Logout**
Here you logout as a user on the QuestServer.

USER:

(→ See also Page 138)

-  **Add user**
-  **Delete user**
- **Add mandator**
- **Delete mandator**

Under the menu bar you will find the **toolbar** with the following symbols:

-  **(Export current result view in different formats)**
-  **(File a questionnaire on the QuestServer)**
-  **(Display results from the QuestServer)**
-  **(Update current result view with the result data of the QuestServer)**
-  **(Edit the QuestServer preferences)**
-  **(Show and edit the values of the quota variables)**

10.2 User management

You can determine which users are entitled to access the QuestServer with the QuestAdmin (**Administrator**) and to access the QuestServer with the mQuest Client (**Interviewer**) (→ See also Page 7). Additionally you can create users with read-only permissions (**QuestReport User**). These users may read reports created in QuestReport but may not create or modify these reports.

In the delivery state of mQuest an administrator and an interviewer are pre-installed (→ See also Page 7 for the access data).

 If you want to use mQuest productively, you should first create your own administrator and interviewer and afterwards delete the pre-installed users.

Because only administrators are entitled to access the QuestServer with the QuestAdmin, you have to login as an administrator.

USER LOGIN:

1. Click on **Login / Logout > Login**.
2. Enter the **Username** and the **Password** of the administrator.

3. Click on **Login**.
You will now be logged in as an administrator.

ADDING A NEW USER:

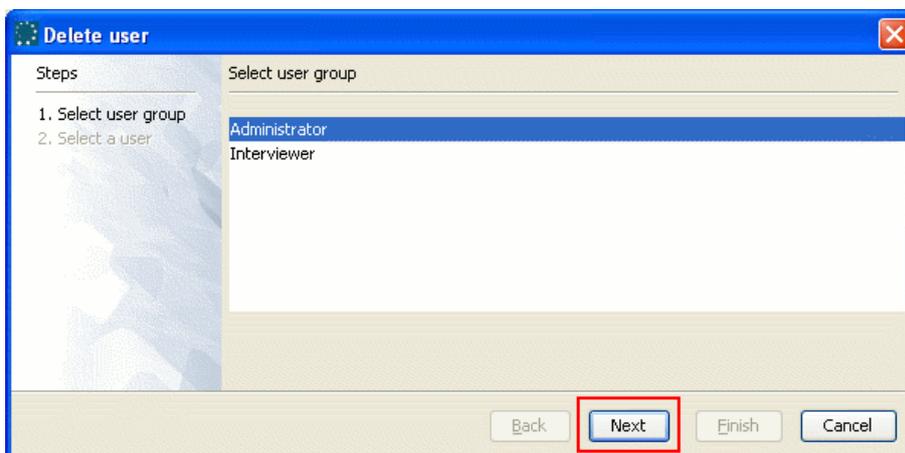
1. Click on **User > Add user**.
The following window will open:

2. Click on the **user group** where you would like to add a new user.
3. Click on **Next**.
4. Enter the **Username** and **Password** and repeat the password in the text line below it.

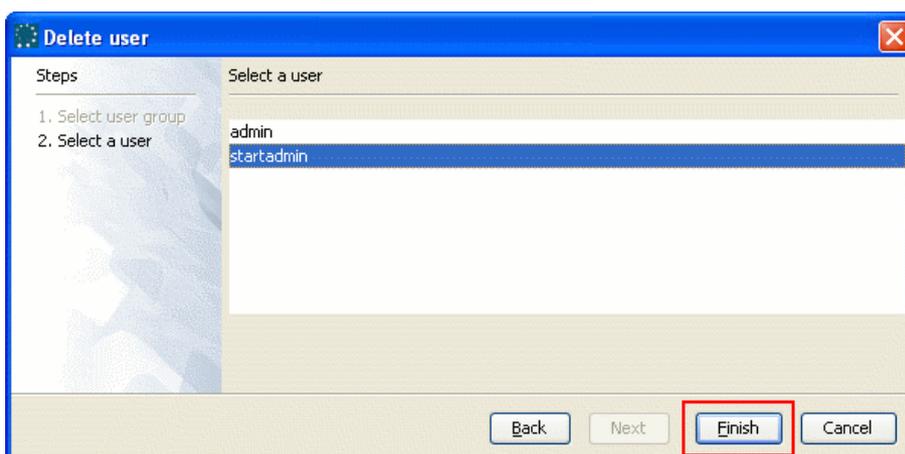
5. Click on **Finish**.

DELETING A USER:

1. Click on **User > Delete user**.
2. Click on the **user group** where you would like to delete a user.



3. Click on **Next**.
4. Click on the user that you would like to delete.



5. Click on **Finish**.

LOGOUT USER:

- Click on **Login / Logout > Logout**.

10.3 License

Without an active license you can synchronize 5 data sets at a maximum for every project respectively each project questionnaire.

In order to transfer more data sets from the mQuest Client to the QuestServer, you need an active license on the QuestServer. With the license, the number of synchronized surveys is counted. The license serves for the creation of an invoice later.

In the **Test-Mode** you can synchronize 30 data sets at a maximum for each questionnaire. If you shift the questionnaire to the **Live-Mode** at a later time, you can decide whether you want to accept the synchronized data sets from the **Test-Mode** or whether you want to delete them.



You can receive more detailed information regarding licenses in the document **mQuest Quickstart**.

10.4 Manage Tasks/ Sample Management: QuestAdmin

In QuestAdmin you have the possibility to assign certain tasks to certain users. Those tasks can be limited by time and by the number of conducted questionings. The authentication for participating in a project can be executed via a participation key. Diary studies can be executed in a safe and controlled environment. The time-triggered alarm function enables you to locally notify participants of the diary study as soon as a questionnaire's start date is reached. Additionally, you can determine whether questionnaires of a diary study are always visible and startable, or only within a defined timeframe. You can also notify participants via push notification when new tasks are added, existing tasks are edited, or questionnaires belonging to a task are updated. The settings for the diary functions are made in the task management. The tasks are managed with the help of Excel files.

10.4.1 Prepare / edit tasks as Excel file

In order to import the Excel file it needs to have a certain format.



You can get a preformatted Excel file by exporting tasks for a questionnaire for which no tasks have been created yet (→ See chapter 10.4.3).

Header

The header must contain at least the columns listed in the table beneath. The columns require certain formats and content types.

Tasks

Every table row equals one task defined by the values in the respective columns. The following table lists the functions and allowed values for the entries.

Column	Function	Allowed values	Format
Task ID	Identification number for the task, if there is no number specified the system will assign one and handle the task as a new task	Numeric values	Number
Task name	Name of the task	Any text with at least 3 characters	Standard
Current status	Effective status of the task, will be assigned automatically by the system for new tasks	OPEN, CANCELED	Standard
New status	New status of the task, only needs to be filled in order to manually change the status	OPEN, LOADED, IN_PROGRESS, REJECTED, ABORTED, FINISHED, CANCELED	Standard
User name	Username of the user assigned to the task	Any username created via QuestAdmin with the role "Interviewer" and thus known to the system	Standard
Due date	Due date / time	Date and time	Date
Notify at task start (1 or 0)	Sends a notification to the user when the start of the task is due	0,1	Standard
Start date	Start date / time from which on the task should be started. The specification can be empty (i. e. not set = -1)	Date and time	Date
End date	Last possible date / time for the task to be started. The specification can be empty (i. e. not set = -1)	Date and time	Date
Finishtype: -1 or the number of data sets to conduct	Number of conducted questionings for the task to be completed	-1 (infinite number of questionings) or integer greater than 0	Number
Task can be rejected/canceled by the user (1 or 0)	Determines if a task may be rejected by users	0, 1	Standard

Column	Function	Allowed values	Format
Push notifications (1 or 0)	Sends a notification to the user when a task is set up, edited or deleted or the questionnaire belonging to an existing task is updated	0, 1	Standard
Task availability	Description of the visibility and startability of a task	* (see information text)	Standard



* **Allowed values for Task availability are:**

- **ALWAYS_VISIBLE_ALWAYS_STARTABLE**
Always visible and startable (default)
- **ALWAYS_VISIBLE_STARTABLE_IN_TIMEFRAME**
Always visible, but startable only in timeframe between Start date and End date
- **VISIBLE_IN_TIMEFRAME_STARTABLE_IN_TIMEFRAME**
Visible and startable only in timeframe between Start date and End date

Column	Function	Allowed values	Format
Short_description_ xy	Short description in several languages. For each language a new column has to be created where in the header the language token must be added to "short_", e.g. "short_en" for English.	Any text	Standard
Detail_description_ xy	Detailed description in several languages. For each language a new column has to be created where in the header the language token must be added to "detail_", e.g. "detail_en" for English.	Any text	Standard



Push notifications are only available if your QuestServer is hosted by cluetec GmbH.

Additionally it is possible to assign several parameters to a task. Every parameter is defined in a new column with the header "task_param_xyz". The name of the parameter is freely selectable and will be added as a suffix to "task_param_", e.g. "task_param_client".

Task statuses

The currently effective status of a task is shown in the column "currentStatus". This status will be managed by mQuest. Manual changes to this column will have no effect once the tasks are imported.

The different statuses have the following meaning:

- **OPEN**
The task is available on the QuestServer.
- **LOADED**
The task has been transmitted to the mQuest Client of the assigned user.
- **IN_PROGRESS**
The task is in progress.
- **REJECTED**
The task has been rejected by the assigned user.
- **ABORTED**
The task has been aborted by the assigned user.
- **FINISHED**
The task has been completed; data has been recorded.
- **CANCELED**
The task has been canceled by the responsible dispatcher.

Set task status

In order to set a task's status, proceed as follows:

- Enter the new status in the column “newStatus”.
After importing the tasks, the changed task has the status which you defined.

10.4.2 Import tasks from Excel file

Tasks are imported to mQuest from an Excel file. In order to import tasks from an Excel file, follow these steps:

1. Click on **Task management > Import tasks**.
2. Select the **questionnaire** the tasks shall be imported for.
3. Choose **file name** and **location** of the imported file.
4. Click **Finish**.

A notification informs about the success of the import.

10.4.3 Export tasks to Excel file

Tasks can also be exported to Excel files from QuestAdmin. These files can then be viewed, edited with standard software (→ See chapter 10.4.1) and afterwards imported again.

Follow these steps to export tasks:

1. Click on **Task management > Export tasks**.
2. Select the **questionnaire** for which the tasks shall be exported.
3. Choose **file name** and **location** for the export file.
4. Click **Finish**.

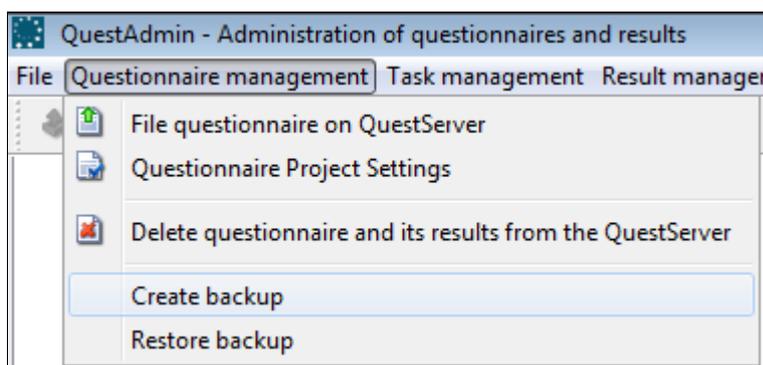
A notification informs about the success of the export. You can now open and edit the file.

10.5 Import and Export of Projects

With QuestAdmin, you can export project questionnaires from one mandator/QuestServer and import them to another mandator/QuestServer. This is done by creating a backup of a questionnaire and restoring it at another place.

10.5.1 Create backup/Export project

To create a backup of a project, please proceed as follows:



1. Click on **Questionnaire management > Create backup**.
2. Select the **questionnaire** you would like to back up.
3. Select the **location** at which you would like to save the backup archive file.
4. Click on **Finish**.

A notification informs about the successful creation of the backup.

10.5.2 Restore backup/Import project

To restore a backup of a project, please proceed as follows:

1. Click on **Questionnaire management > Restore backup**.
2. Select the **backup archive file** you would like to restore.
3. Assign a **name** to the questionnaire.
4. Click on **Finish**.

A notification informs about the successful recovery of the backup.



When a backup is created, all available media files, if any, are archived as well and can thus be restored at another location.

11 Filing questionnaire on the QuestServer: QuestAdmin/QuestEditor

! In order to access the QuestServer with the QuestAdmin or the QuestEditor, the QuestServer must be started (→ See also Page 133 for starting the QuestServer).

After you have created a questionnaire with the QuestEditor, you can file it on the QuestServer. You can do this with the QuestAdmin as well as with the QuestEditor.

i The questionnaire should be filed on the QuestServer with the QuestAdmin, if possible.

11.1 Filing new questionnaires

1. Click on **Questionnaire management > File questionnaire on the QuestServer** in the QuestAdmin.
Or click on **Publish > File questionnaire on QuestServer** in the QuestEditor.
2. Select an mQuest questionnaire file by clicking on **Select**.
3. Click on **Next**.
4. Issue a name under which the questionnaire on the QuestServer should be filed.
You could simply use the name proposal which will be entered from the file name or issue another name.
5. Select the project settings for the questionnaire.
*You can choose between **Live-Mode** and **Test-Mode**. In the **Test-Mode** you can synchronize 30 data sets at a maximum for each questionnaire. If you shift the questionnaire to the **Live-Mode** at a later time, you can decide whether you want to accept the synchronized data sets from the **Test-Mode** or whether you want to delete them.*
6. Click on **Finish**.

11.2 Update old questionnaires

Questionnaires of the **same name** and with the **same UUID** are compatible with each other, even if they have different version numbers. That way you are able to file new questionnaire versions on the QuestServer although older versions of this questionnaire already exist there. In this case the questionnaire will be updated.

For example you are able to add, delete or move questionnaire elements afterwards in your questionnaire and then file the questionnaire again on the QuestServer. In the QuestAdmin the results of the new questionnaire version will then be displayed together with the results of older versions. The data sets are distinguishable from one another by the column **Version** (→ See also Page 155 for the result view in the QuestAdmin).

1. Click on **Questionnaire management > File questionnaire on the QuestServer** in the QuestAdmin.
Or click on **Publish > File questionnaire on QuestServer** in the QuestEditor.
2. Select an mQuest questionnaire file by clicking on **Select**.
3. Click on **Next**.
4. Issue a name under which the questionnaire on the QuestServer should be filed and click on **Finish**.

i In order to update an old questionnaire you need to enter the name of this questionnaire here.

The questionnaire name is **not** case-sensitive.

5. Select the project settings for the questionnaire.
6. Confirm the warning with **Yes** to update the old questionnaire.

! The following questionnaire changes are not compatible to old questionnaire versions and will lead to an error message:

- **Changing the question type while the variable name remains unchanged.**
If you change the question type you need to change the variable name too.
- **Changing the answer code of a Single selection from numeric to alpha-numeric or the other way around.**
A numeric answer code of a Single selection has to stay numeric; an alpha-numeric code has to stay alpha-numeric.

12 Generate test data: QuestAdmin

With the function **Generate random results** you are able to generate any number of random results of a questionnaire. This is helpful to test the questionnaire, e.g. if you have used Loops or Branching.

12.1 Generate test data

1. Click on **Result management > Generate random results**.
2. Select the desired questionnaire and click on **Next**.
3. Enter the number of survey cycles that shall be simulated in the field **Number of results**.
4. Optionally you can activate the following options:
 - **Create routing-statistic**
An .xls file will be generated which will contain an evaluation of the generated results (→ See also Page 148 for the interpretation of the routing statistic file).
 - **Include media files**
If you activate this function, exemplary media files for questions with the type Media will be used to create test answers.
5. Click on **Next**.

The results will be generated automatically and will be displayed in the QuestAdmin.



If there are conditions in the questionnaire which make the survey jump back to a previous question (e.g. by using Filters, Validations, etc.), these conditions will be removed. In this case a message with detailed information about the removed conditions would appear.

12.2 Interpret the results of the routing-statistic

The routing-statistic file gives you an overview of the results of the simulated surveys.

The result table of the routing-statistic file will be divided into questions outside of loops and questions within loops.

- **Questions outside of loops:**
There will be a separate line with the following columns for every question:
 - **Question number**
 - **Variable name**
 - **Deleted jump back condition**
Indicates which conditions were removed because of a jump back
 - **Percentaged**
Indicates in how many surveys the question has been asked in percent
 - **Absolut**
Indicates how often the question has been asked

- **Questions within loops**

Questions within loops will have the following columns:

- **Question number**
- **Variable name**
- **Deleted jump back condition**
Indicates which conditions were removed because of a jump back
- **Percentaged [average]**
Indicates in how many surveys the question has been asked in percent (in average)
- **Absolut [average]**
Indicates how often the question has been asked in average
- **Loop**
Shows the loop name
- **Number of loop cycles (the question has been asked in)**
Indicates in how many loop cycles the question has been asked
- **Average value of the number of loop cycles (the question has been asked in)**
Indicates the percentage of loop cycles in which the question has been asked
- **One column per loop cycle**
The column names equal the names of the loop cycles. A number for every cycle indicates how often the question has been asked.

Question number	Variable name	Question type	Question text	Delete jump back condition.	Percentaged	Total	Loop
1	TAKEPART	Single selection	Hello. My name		100.00 %	100	
2	REASON	Single selection	Are you visiting		50.00 %	50	
3		Message	INT: Quota		27.00 %	27	
4		Message	INT: Quota		19.00 %	19	
5	FIELD	Single selection	In which field of		4.00 %	4	
6	EMPL	Single selection	How many		4.00 %	4	
7	LIKES1	Media input	How do you like		4.00 %	4	
8	LIKES2	Numeric input	How do you like		4.00 %	4	
9	SERVICE	Single selection	SERVICE		3.00 %	3	
10	ORGA	Single selection	ORGANISATION		3.00 %	3	
11	MARK	Single selection	ADVERTISING		2.00 %	2	
12	TRANSPORT	Single selection	With which mode		4.00 %	4	
13	ORIGIN	Text input	You have chosen		1.00 %	1	
14	PRODUCTS	Text input	For which		4.00 %	4	
15	TARGET	Ranking	What is the main		4.00 %	4	
16	SUCCESS	Single selection	You have chosen		4.00 %	4	
17	LOGO	Single selection	Have you noticed		4.00 %	4	
18	PLACELOGO	Multiple selection	Where have you		0.00 %	0	

13 Conduct a survey: mQuest Client

In order for you to conduct a survey with mQuest Client, you must load the necessary questionnaire from the QuestServer onto the mQuest Client. Thereafter, you can conduct any number of surveys with the mQuest Client and afterwards transfer the results onto the QuestServer.



You can receive more detailed information regarding mQuest Client in the document **mQuest Client Manual**.

13.1 Configure mQuest Client via QR codes*

You have the possibility to apply settings with the help of a QR code. QR codes are graphics which contain information displayed as black and white dots. This information can be interpreted by mQuest Client.

A QR code allows settings to be applied in mQuest Client quickly and easily. It also avoids problems caused by input errors. Additionally QR codes offer the possibility to apply settings which are not accessible by the user interface.

CREATE A QR CODE



Only use configuration inputs if you know what effect the settings have.

1. Create a new **text file**.
2. Configure all desired settings in the text file using the **configuration inputs**.
You find an overview of configuration inputs in the table below. Use a new line for every setting. A setting consists of the configuration input which is directly followed by one or more values. If you use several values, e.g. for password protected functions, separate them by a semicolon (;).
3. Copy the content of the file.
4. Create a QR code from the copied file content with the help of any QR code generator. Mind the instructions for the respective generator.
5. Save or print the created QR code.
You can now use the generated QR code.



Create the QR code as free text so it can be processed correctly.
The less text a QR code contains the easier it can be read.



Your input will not be checked for validity. Before you create the QR code, make sure that your input is valid and complete.

i A wide range of tools is available to create QR codes. There are also some tools that work online. Please ensure that the tool allows the usage in your context of use.

i You can provide the QR code in a digital or printed version. It is possible to scan QR codes from screens as well as from paper.

Example The configuration inputs on the left lead to the QR code displayed on the right.

```
supported_app_languages=de en
default_app_language=en
default_service_gateway_host=localhost
default_qning_language=en
default_service_gateway_port=8082
default_service_gateway_protocol=https
mandatorId=default
```



Overview of configuration inputs

Input	Possible values	Description
admin_cmds=	Commands (see table below) Multiple values allowed, separated by ;	Sets which commands can only be executed when the administrator password has been entered
admin_password=	secret	Sets the administrator password
regular_cmds=	Commands (see table below) Multiple values allowed, separated by ;	Sets which commands users can execute without entering a password
android_font_size=	Integer (for iPhone: 11, 13, 15, 17, 19; for iPad 12, 16, 20, 24, 28)	Sets the font size for the mQuest Client
automatic_questserver_lookup=	true, false	Sets, if USB tethering is enabled
automatic_qs_timesync=	true, false	Sets, if the time shall be synchronized with QuestServer

Input	Possible values	Description
default_app_language=	en, de, any language token (if language available)	Sets the application language
supported_app_languages=	en, de, any language token (if language available)	Sets the supported application languages
default_qning_language=	language token (if language available)	Sets the default questionnaire language
supported_qning_language=	language token (if language available)	Sets the supported questionnaire languages
default_service_gateway_host=	localhost, any IP	Sets the address of QuestServer
default_service_gateway_port=	80 (without SSL), 443 (with SSL)	Sets the port used for QuestServer
default_service_gateway_protocol=	http (without SSL), https (with SSL)	Sets the network protocol for the communication with QuestServer
default_user=	interviewer username	Sets the username for the interviewer
default_password=	secret	Sets the user password
mandatorId=	default, any mandator ID	Sets which mandator will be accessed
mediaStorageCard=	true, false	Sets, if media files may be saved on memory cards
uploadResultsAfterQning=	true, false	Sets, if results will be uploaded directly after finishing a questionnaire
questserver_settings_profile=	manual , demoPortal, localServer, showcase	Sets the profile used
width_of_stored_picture=	Positive integer, -1	Sets the width for taken photos; if the width is lower than the given number the photo will not be scaled, if the value is -1 the photo will not be scaled at all
use_extern_scanner_app=	true, false	Sets if the external application ZXING will be used for scanning barcodes and QR codes

Input	Possible values	Description
sync_media_responses_only_on_wifi	true, false	Sets whether or not multimedia files are only transmitted during synchronization if a WLAN connection is available

Overview of Commands

Command	Function
gv	Access to the menu for Global variables
interviewer	Change interviewer name
movedata	Move results to SD card*
configuration	QuestServer preferences
deleteresults	Delete questionnaire results
start	Start survey
sync	Execute Sync
download	Download questionnaire
resultupload	Upload results
contpaused	Continue paused survey*
localcounterreset	Reset temp counter*
language	Language preferences
deleteqning	Delete questionnaire
deleteresults	Delete results
exit	Exit mQuest Client
about	About information
system_overview*	System Overview

APPLY SETTINGS VIA QR CODE

1. Tap on **Menu > Settings > Settings via QR code**.
The QR code scanner starts.
2. Place the QR code within the rectangle.
3. Position your device as close as possible to the code. The code must fit completely into the rectangle.
The dots in the corners of the rectangle turn green. The settings from the QR code will be applied.

i Depending on the lighting conditions and the size of the QR code it may take several seconds until the QR code is registered. You can scan the code either from your screen or from a printout.

13.2 Review data sets

mQuest client offers you the possibility to review data sets directly on the mobile device. This can happen either by the user or a supervisor. The access to the review function can be restricted by a password.

The review function is available via **Review recorded data sets** from the project menu.

! The review function must be enabled in the questionnaire before you can use it on the mobile device.

ENABLE REVIEW FUNCTION FOR A QUESTIONNAIRE

→ Paste the following code to the questionnaire properties:
questioning_result_review_enabled=true
After saving and uploading the questionnaire the review function is available.

PROTECT REVIEW FUNCTION BY PASSWORD

→ Paste the following code to the questionnaire properties:
questioning_result_review_password=yourPassword
After saving and uploading the questionnaire the review function is protected by the password.

14 Manage results: QuestAdmin

i In order to access the QuestServer with the QuestAdmin, QuestServer must be running (→ See also Page 133 for starting the QuestServer).

With the QuestAdmin you can display results which were transferred to the QuestServer on a PC in order to export and to evaluate them afterwards.

14.1 Display results of the QuestServer

1. Click on **Result management > Display results of the QuestServer**.
2. Select the questionnaire whose results shall be displayed.
3. If you would like to display also the results of deleted questions from previous questionnaire versions, activate the function **Show data of deleted questions from previous questionnaire versions**.
4. Click on **Finish**.

The results will be shown in a table:

#	ignore	id	Version	Cancelled	TAKEPART	REASON	FIELD	EMPL	LIKES1	LIKES2	SERVICE	ORGA	MARK	TRANSP
1	<input type="checkbox"/>	1	179	0	1	1	1	2		66	5	5	2	2
2	<input type="checkbox"/>	2	179	0	2									
3	<input type="checkbox"/>	3	179	0	2									
4	<input type="checkbox"/>	4	179	0	2									
5	<input type="checkbox"/>	5	179	0	1	1	4	1		84	1	5	2	3
6	<input type="checkbox"/>	6	179	0	1	2	7	2		89	1	1	3	2
7	<input type="checkbox"/>	7	179	0	1	1	1	8			3	5	4	1
8	<input type="checkbox"/>	8	179	0	1	1	2	4		7	2	2	2	3

i With **Display results of the QuestServer** the current results are displayed. The results will not be deleted on the QuestServer.

i If new results on the QuestServer were transferred in the meantime, the current result view can be updated through the menu **Questionnaire management > Update current result view**.

14.2 Result interpretation

#	ignore	id	Version	Canceled	TAKEPART	REASON	FIELD	EMPL	LIKES1	LIKES2	SERVICE	OF
1	<input type="checkbox"/>	1	179	0	1	1	1	2		66	5	5
2	<input type="checkbox"/>	2	179	0	2							
3	<input type="checkbox"/>	3	179	0	2							
4	<input type="checkbox"/>	4	179	0	2							
5	<input type="checkbox"/>	5	179	0	1	1	4	1		84	1	5
6	<input type="checkbox"/>	6	179	0	1	2	7	2		89	1	1
7	<input type="checkbox"/>	7	179	0	1	1	1	8			3	5
8	<input type="checkbox"/>	8	179	0	1	1	2	4		7	2	2

The results are displayed in a table in the QuestAdmin. For every survey there is a row in the result table.

The columns are, as follows:

- **#**
Indicates the sequential number of the survey.
- **ignore**
Here you can mark those surveys you would like to ignore when exporting the results or viewing the results with QuestReport.
- **id**
Contains a unique, sequential number for every survey, which is independent of the questionnaire. The id will automatically be issued from the QuestServer and is unique for a QuestServer.
- **Version**
Indicates the questionnaire version with which the surveys are conducted.
- **Canceled**
This column is only displayed if the function **Canceled questionings** is set to **Keep** (→ See also Page 15). Cancelled surveys will be marked with **1**, completed ones with **0**.

After these, the **Global variables** follow, in case they have been defined. Per Global variable one column is displayed; the name of the Global variable is assigned as the column header.

After the Global variables, the questions are displayed which have been defined in the questionnaire. Depending on the question type and the question preferences (for example, editable result fields with question type Media input) there exist one or several columns per question.

#	id	placeOfSu...	5	6_1	6_2	6_3	6_4	6_MISC	7_1	7_2	7_3	7_4	8_7_1	8_7_2	8_...
1	1	pedestrian are1	-1003	-1003	-1003	-1003	-1003	-1003	1	0	1	0	0	-1005	0
2	2	pedestrian are2	0	0	0	1	too confusing	-1004	-1004	-1004	-1004	-1005	-1005	-1005	-1005
3	3	pedestrian are1	-1003	-1003	-1003	-1003	-1003	-1003	0	1	0	0	-1005	0	-1005
4	4	pedestrian are2	0	0	1	0		-1004	-1004	-1004	-1004	-1005	-1005	-1005	-1005

- **Single selection**
Column title: **<variable name>**

A Single selection generates one column. The given answer is entered directly into the suitable cell; the figure 1 is assigned to the first answer possibility, 2 to the second, 3 to the third etc.

Included answers always come **after** the entered answers in the countable order.

If answer codes have been used, the codes will be displayed instead of the answers in the cells.

- **Multiple selection**

Column title: **<variable name>_<number of the answer>**

Every answer possibility generates one column. Thus a Multiple selection always generates as many columns as there are answer possibilities. The **<number of the answer>** is consecutively numbered, beginning with 1.

The contents of a cell with the question type **Multiple selection** is either **1** or **0**. That means that with 1 the answer possibility was selected and with 0 that it was not selected.

If answer codes have been used, the codes will be displayed instead of the answer number in the column title.

If included answers have been used, the column heading will consist of the variable name of the question, the variable name of the included question and the number for the included answer:

<Variable name>_<variable name of the included question>_<number of the included answer>



If in the case of a **Single selection** or **Multiple selection** the option **open-ended text allowed** in the questionnaire is activated, an additional column appears with the heading **<Variable name>_MISC**, in which the entered free text is displayed, for example: **3_MISC**.

- **Numeric input**

Column title: **<variable name>**

Every question generates one column. The given answer is entered directly into the suitable cell.

- **Text input**

Column title: **<variable name>**

Every question generates one column. The given answer is entered directly into the suitable cell. The given answers can be edited, e.g. for correcting typos.

→ In order to activate or deactivate the edit functionality click **Preferences > Text input answers editable**. If the functionality is activated, the results of all questions asked are editable in this data set.

If an auto-completion list with answer codes was used, the corresponding codes will be displayed in the cells.

- **Media input**

Column title: **<variable name>**

(→ See also Page 159)

- **Ranking**

Column title: **<variable name>_<rank number>**

Every rank generates one column. The **<rank number>** is consecutively numbered, beginning with 1 up to the maximal number of ranks that you have defined. The result cells of these columns will contain which answer was chosen for which rank.

If answer codes were used, the codes will be displayed instead of the answer in these cells.

- **Drag&Drop**

Column title: <variable name>_<number of the answer>_<number of the axis>

For a Drag&Drop question, one or two columns are generated depending on whether question type variant **1-dimensional** or **2-dimensional** has been selected. The cells contain the numerical values for the placing of the appropriate picture, i.e. the coordinates of the X-axis or the coordinate system. The X-axis has the axis number **1**, the Y-axis (if used) has the axis number **2**.

If **Additional categories** have been selected, their IDs will be placed in the suitable cells.

The entry for **Missing value** will be placed in a cell if a question, for example due to a filter, was not asked. A question that has not been asked is thus easier to distinguish from a question that has not been answered. If you have activated the option **Include answer**, the missing value is likewise placed into the cells for the answers which were not taken over.

- **Message**

Questions with the type Message will **not** be displayed in the result table of the QuestAdmin.

After the columns for the questions the column **Interviewer** is displayed. It contains the user name which was set up on the mQuest Client.

The last four columns **Begin**, **End**, **Duration** and **Handover** are automatically generated and contain more exact information about the beginning and end of the survey (time stamp on the mQuest Client), the resulting duration and the time of the handover to the QuestServer (time stamp from the QuestServer).

If the questionnaire has been updated by a new questionnaire version and the function **Show data of deleted questions from previous questionnaire** versions has been activated, the columns of the deleted questions will be displayed at the right end of the table. These columns have a red background and get the token **DEL** in their column title.

DEL_LOGO	DEL_LOG...	DEL_LOG...
1	0	0
1	0	0

14.3 Display/ play /code multimedia files

The question type **Media input** contains, in the cell, the file name of the recorded multimedia file, and next to it a start button ( **Audio**,  **Video** and  **Photo**) to display/play the file. In order to display/play a multimedia file it will be opened with the assigned program on the operating system for this file type. With the question type variant **Location (GPS)** a button will be displayed in the corresponding cell which will open your standard browser in order to display the saved coordinates via Google Maps.

12	12_E1	Interviewer	Begin	End	Duration	Handover
Supershop_12_1.wav 			27.09.2006 14	27.09.2006 14	76	27.09.2006 15
			27.09.2006 14	27.09.2006 14	33	27.09.2006 15
			27.09.2006 14	27.09.2006 14	222	27.09.2006 15
Supershop_12_4.wav 			27.09.2006 14	27.09.2006 14	53	27.09.2006 15
Supershop_12_5.wav 			27.09.2006 14	27.09.2006 14	88	27.09.2006 15

1. Click on the suitable symbol to display the multimedia file or to play it.

The external program for this file type will be opened with the suitable file.

With the question type **Media input** additional editable result fields (highlighted in green) can be used. The number of these fields and their maximum character number are defined in the questionnaire. In the fields you can enter any text, e.g., a transcription of the audio recording or an encoding.

1. Click in the desired cell of the editable result fields (highlighted in green).
2. Enter the desired text.

14.4 Display / Edit quota values

You are able to display and edit the current quota values of a questionnaire in the QuestAdmin.

1. Click on **Result management > Manage Quotas** or on  in the toolbar.

*The window **Manage Quotas** will open.*

2. Select the desired questionnaire and click on **Next**.

In the next window you will see the quota variables of the questionnaire as well as the current corresponding values.

3. Change the desired quota values with the arrow keys in the corresponding field to define a new value for the quotas.
4. Click on **Confirm** and then on **Ok**.

The changes will be applied and will be transferred with the next synchronization by an mQuest Client.

14.5 Exporting results

You can export the results of the current result view in different formats to evaluate them with suitable programs or to save them for later use.

When you have got surveys you do not want to export, you can mark them in the column **ignore**.

14.5.1 Comma separated value files (CSV)

1. Click on **Result management > Export current result view as...** and select as **Comma separated values (CSV)**.
2. Select a separator and an escape character.

! When with an answer, blank spaces, separators, escape characters or line breaks have been entered, this answer must always be put in escape characters (quotation mark) when exporting.

3. Optionally, you can carry out even other preferences:
 - **Export variable names at the top of a file**
Here you can define whether the variable names should be written in the first line as a column heading during export.
 - **Use Charset “UTF-8” for Export**
Here you define that UTF-8 encoding is used during export.
 - **Replace line breaks with a blank space**
Line breaks can be substituted with blank spaces. Thus, line breaks are removed and substituted by normal spaces for answers that extend over multiple lines.

14.5.2 Microsoft[®] Excel (XLSX)

- Click on **Result management > Export current result view as...** and select the **Microsoft Excel (XLSX)** format.

14.5.3 SPSS[®] Data format (SAV)

If you would like to export your questionnaires in SPSS[®], you must follow the following points when creating the questionnaire:

- **Text input**
The answers of the text input may contain only 255 characters in SPSS[®]. If they contain more than 255 characters, they will be cut off.

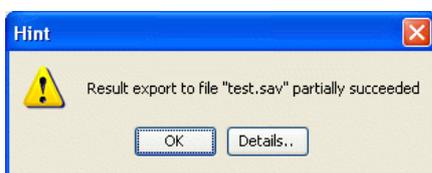
Missing values and value labels can only be generated in SPSS[®] for answers which have no more than 8 characters. If with a Text input only short answers are to be expected, then enter in QuestEditor under **Details** at the suitable question in the input field **Total number of characters** the value 8.
- **Single selection**
If the code of an answer has more than 8 characters, value labels and missing values cannot be generated in SPSS[®] for this answer.

- **Additional categories**

The encoding of the additional categories must be coherent to guarantee that all missing values in SPSS® are marked as such. Correct would be a coding from -1 to -10 if there are 10 additional categories. This would then be handed over as **one** area specification to SPSS®. Nevertheless, with a non-coherent coding, out of 10 single values, 7 assignments would get lost because SPSS® allows only three single values or one area specification plus a single value as a missing value.

EXPORTING THE RESULTS IN SPSS®:

1. Click on **Result management > Export current result view as...** and select the data format **SPSS data format (SAV)**.
2. With the SPSS® export you still have to select the **Language** in which the labels should be generated.
3. If the results have been exported with restrictions, you are able to find out which problems have appeared by clicking in the displayed dialog on **Details**.



14.5.4 Fixed Field ASCII (TXT)

EXPORTING THE RESULTS AS FIXED FIELD ASCII:

→ Click on **Result management > Export current result field as...** and select the format **Fixed Field ASCII Export (TXT)**.

(→ See also Page 26 for the Fixed Field ASCII mapping)

14.5.5 Multimedia files

EXPORTING ALL MULTIMEDIA FILES CONTAINED IN THE RESULTS IN A SPECIFIED DIRECTORY:

1. Click on **Result management > Export current result view as...**
2. Select **Multimedia files** as format and choose the destination folder.
3. Choose the period for which you want to export the media files.
4. Click **Finish**.

The multimedia files for the selected period will be saved.



The file names of the exported multimedia files always have the same pattern and can be assigned unambiguously to the questionnaire, the question and the survey:

<Questionnaire name>_<Question variable name>_<id>.<File ending>

15 Evaluate the results: QuestReport

QuestReport gives you the opportunity to evaluate your survey results in a quick and graphical way. For this purpose, a common internet browser like “Microsoft Internet Explorer” or “Mozilla Firefox” has to be installed on your PC.

i In order to access the results, the QuestServer must be running (→ See also Page 133 for starting the QuestServer).

STARTING QUESTREPORT:

If QuestServer is running on your local PC:

1.A Click on **Start > Program files > mQuest > QuestReport**.

Your internet browser will open and the login page of QuestReport will appear.

If QuestServer is running on a remote computer:

1.B Start your web browser and type in the **address of the QuestServer** followed by **“/QuestReport”**.

The login page of QuestReport will appear.

2. Enter the required login data in the formula fields. Preset are:

- Client/Project id: **default**
- User: **startadmin**
- Password: **startadmin**

3. Click on **Login**.

Now you see all questionnaires that are on the server.

i Depending on your user role you can create and view reports or only view already created and unlocked reports.

If you are logged in as Administrator you can use all functions of QuestReport. If you are logged in as QuestReport User you have a read-only access to the reports.

You will find more information on user roles in chapter 10.2 User management on page 138.

CREATING A NEW REPORT:

1. To see the indicators (Number of Surveys; Number of canceled Surveys; etc.) of the questionnaire or if you want to create a report of it, please click on “Project details”.
2. To create a new report, click on the upper tab with the plus symbol.
3. In the settings you can give the report a name and you can adjust other settings.

i For the “Name of the Report”, only **letters (no German umlauts)**, **numbers** and **hyphens (-)** or **underscores (_)** are allowed. It also has to be at least three characters long.

4. After you applied the settings you reach the “Question selection”. Here you can either choose all questions or you can select specific questions of your questionnaire. Even after you applied, you can go back to this tab and change your settings.
5. After you applied your question selection you get to the report itself.
Your created report will be saved, even if you log out.

Filtering:

You can filter the displayed results in the report.

To filter your data you have to go to the tab “Filter” and activate “Filtering is active”. With the plus button on the right side you can add conditions. If you want to use more conditions you can link them either with AND or OR.

i An “AND”-linkage is stronger than an “OR”-linkage.

i Within one condition you can use following operators (→ See also Page 72):
= != >= > <= <

i To filter data of a certain period of time you can use the “Meta-Data”-Variables (**Begin**, **End** or **Handover**).

Please fill in the date in following format: DD.MM.YYYY hh:mm

Grant read only access for reports

You have the possibility to grant a read-only access for certain reports for QuestReports Users. Without that clearance no reports can be viewed by users in the role QuestReport User (→ See also Page 138 for the different user roles).

Do the following in order to grant access to reports:

1. Log in to QuestReport as Administrator.
2. Select or create the report you want to share and make changes if necessary.
3. Click on the button **User Permission** in the upper area.
A new window with the settings for user permissions will be shown.
4. Activate the checkbox for all users that shall be able to view the report.
5. Click **Apply**.
You successfully granted access to a report.

! You can only grant access right to users which are already known to the system, i.e. you must create users before you can grant them access rights.

16 mQuest with different mobile operating systems

Functions of mQuest on mobile devices with different operating systems differ in some cases.

Please note that devices with Apple iOS use port 80 as default to communicate with the QuestServer.

16.1 Range of functions

The following functions are currently not available for devices with Apple iOS:

- **Create data backup**
- **Change user name**
- **System overview**
- **Certain questionnaire properties**
- **External configuration (mqconfig.cfq)**
- **mQuest traffic functions**
- **Freely defined help and hint texts**
- **Use of an external barcode scanner**
- **Question type variant Media input – File selection**